THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

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To the Patrons of the Farmers' Cabinet.

The next number of the Cabinet will complete the *second volume*, and according to a rule of this office, the work will be discontinued to all those whose subscription expires with that number, unless express directions to continue it be given. Several hundred of our patrons have already ordered the work to be continued,—some have paid several years in advance,—and many more, we are satisfied, need but a timely notice to communicate their wishes. That notice is now given. *Those of our friends who can make it convenient to call and renew their subscriptions at the office, are most respectfully requested to do so, and the earlier the better*, as we wish to ascertain, as soon as may be, the practicability of increasing our present large edition of the Cabinet. Those who do not visit the city, may remit by their neighbors, when convenient, or pay over the amount to our agents, or to any Post Master willing to receive it and receipt for the same, as all Post Masters are hereby authorized, and respectfully requested to act as agents for the Farmers' Cabinet.—And any friend of the enterprize, may constitute himself a *special agent*, by forwarding five dollars free of postage, for which seven copies will be sent to his order, for one year. We need the aid of every friend of agricultural improvement.

The THIRD VOLUME of the Cabinet will be commenced under favorable circumstances. It is true that we have encountered many difficulties—but they have been surmounted. The prejudice with which our enterprize was viewed in the outset, is, in some sections, at least, entirely overcome. The spirit of improvemen is abroad; agricultural societies are springing up in every direction, and from their judicious management the best results may be anticipated. Intelligent and enterprizing farmers are moving in this business, and experiments are being made in all the various departments of agriculture. In this great and important work, we do not aspire to lead—we offer our humble sheet as a co-worker in the great cause. Our desire is to present to our readers information on which they may rely; the proceedings of agricultural societies, and the results of experiments, as furnished to us by practical men, with such essays, and other matters, as may be deemed interesting to agriculturists, and worthy of preservation.

The increase of our correspondents keeps pace with that of our subscription list. Some of them would do honor to any work. We return them our thanks, and hope to receive many more favors from them, and also from other gentlemen who are interested in the subject, who can add to the stock of agricultural knowledge and who may feel disposed to write for the public good.

☞ For Notices see last page. ☜

To the Editor of the Farmers' Cabinet.

The following essay was read before the New Garden Lyceum, on the 24th of 2d mo. last, and immediately prepared for the Cabinet, but was mislaid. If it is thought worth publishing, after so able a refutation from W. D., in the last Cabinet, [No. 39] please to dispose of it accordingly.

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Observer—No. 14.

"And God said, let the earth bring forth grass, and herb, yielding seed, and the fruit-tree, yielding fruit, after his kind, whose seed is in itself, and it was so!"

IS WHEAT CONVERTIBLE INTO CHEAT?

The affirmative of the question has long been maintained, with a zeal, and confidence, which could hardly proceed from any thing short of a belief in its correctness. It is on this account I have deemed it worthy of a dispassionate answer.

A belief in the convertability of a number of the grasses, is as old as it is prevalent. It was, long ago, a common opinion among the peasantry of Europe, and, is one of the many legacies, bequeathed to their descendants on this side of the Atlantic. The celebrated Linnæus deemed it not unworthy of his pen, to endeavor to *disabuse* the people, of his day, by a learned essay, on the subject, which was published in the *Amœnatites Acidemicæ*, vol. v. Formerly, many of the graminaceaus plants were thought to be convertible into each other, in a certain progressive order.—Thus the wheat was supposed to be converted into rye—rye into barley—barley into rye-grass—rye-grass into cheat—and cheat into oats. In these more enlightened times, and, especially, in this *free country*, where belief is too often untrammelled, even by reason, we have found a shorter road to folly, by allowing the wheat to pass directly to cheat.

The advocates of this doctrine unfortunately, stand directly opposed to the creative mandate, "let the earth bring forth grass, yielding seed after his kind, whose seed is in itself upon the earth." The man who reads his Bible, and believes what he reads, can hardly entertain such an opinion.—The Bible argument is against him. To believe that any plant can bring forth seed after *another kind* than its own, appears to be a palpable absurdity.

Such a doctrine is no less repugnant to the "laws of nature," as they are deduced from the most extensive observations in Botanical science. Every *species* of plant, is found, to "yield seed after his kind." A species might, indeed, be defined, "*a plant whose seed is in itself.*" Plants of some *species*, under the influence of local circumstances, such as, difference of soil, and of climate, present various appearances which are called *varieties*. Thus, we have many *varieties* of wheat—of corn—of potatoes—of apples &c., yet all those *varieties* belong to the same *species*, "whose seed is in itself"—*they mix with each other.* On the contrary, *no two species can be made to intermix, or propagate together.* This is a determinate "law of nature"—the best available distinction between *species* and *varieties.* Now wheat is only one of a number of species, which constitute a genus, (Triticum) each possessing determinate characters. The different species of this genus do never mix—the varieties of any one species do. The same remarks will apply to rye, barley, rye-grass, cheat, and oats; they all belong to seperate genera. If species, composing the same genus, and having a close family resemblance, do not mix, much less can we expect those of different genera to do so.

Our fields afford several species of cheat-grass, very near a kin to each other, yet only one of them is pernicious among grain.

The transformation, in question, is not so much a mixing of species, as an alleged alteration in the plant—a radical change, from the nature of wheat, to that of cheat. But as such change, has not been noticed to occur in plants generally, it is illogical to suppose that it can take place in any. If such vagaries *do* take place with some, they *may* with all. If *one* is thus permitted to contemn the creative mandate, with impunity, neither will *others* obey. The vegetable world would soon run into the wildest confusion.—Agriculture would become the most precarious of employments. Our crops might, at any time, be metamorphosed into a forest of oaks. The stately lord of the forest become a mushroom. Even,

> ——— "that tub'rous root,
> Which, in their clay-built cells, the hardy sons
> Of Erin bless"———

might spring up, the far-famed *upas*, and with one pestiferous breath, annihilate the vital existence of a world. Happily, the "laws of nature," which the Eternal Fiat has established, for the government of our world, will not permit any such disorders in the vegetable kingdom.

The disciples of this doctrine of *transubstantiation*, do not attempt to sustain it by reasoning—they do not venture an issue, by the "laws of nature"—but, they confidently appeal to stubborn facts, which defy all reason, and all law. It may be worth while to analyse some of those facts, and see whether they may not be in conformity, both with reason, and, with the "laws of nature," which govern them.

I will first examine a *fact*, stated by G. W. Featherstonhaugh, a gentleman of high sci-

entific attainments, and long accustomed to study the "laws of nature," and, to analyse its phenomena. And, what did he observe? *a plant of cheat, drawn from the earth, at harvest time, with the skin of a grain of wheat, (or cheat?) entangled among its fibrous roots.* This, I believe, is a fair and simple statement of his fact. He, indeed says, that the skin "was attached to the radicle, in a situation quite distinct from the lateral roots"—and, that on "applying the microscope, he found it had been a kernel of wheat, and *nothing else.*" The fact is, moreover, fortified by the concurrent opinion of the venerable Madison, and ushered forth to the world, under the auspices of "The Monthly American Journal of Geology, and the Natural Science."* All this is, by no means conclusive, to my mind. There is room to doubt, whether the skin of a grain of wheat, which had lain so many months in the ground could be positively identified, and distinguished from that of cheat,—even by means of the microscope,—especially, without a comparison of the two, which does not appear to have been made. Again, the connexion between the radicle and the seed, would probably cease, with the destruction of the kernel, and could not be depended on to draw the skin out of the ground. But, I can readily conceive, that a radicle, or little root, of the plant, may have so penetrated the skin of its own seed, *or some other one*, as to aid in removing it from the earth, and present all the appearances noted. An opinion, if well founded, relating to an occurrence so common as the conversion of wheat is said to be, ought to find more conclusive evidence for its support. Moreover, the writer admits that his "opinions, as to the immutability of wheat, *were long ago shaken*," he does *not believe*, "that the heads of cheat, or chess, which are often found in wheat fields, *take their origin from seeds, like those they bear.*"—And, "having had a liberal share of *agricultural controversy*," (*on this subject?*) he seems to have hastily seized upon this fact, as a kind of *back handed missile*, in his retreat from the field. This should be remembered.

Another *fact.* Cabinet, vol. ii. p. 201. R. C. McFarlan seems to admit, that cheat will "yield seed after its kind," as he took some pains to have clean seed. Yet his ground had probably become foul, and might have received the seeds of cheat from "the stable and barnyard." The probability of this is greatly increased, by the fact that he, afterwards, cut his crop of cheat, "about the *middle* of June, and it made excellent hay." I say the probability is increased, because cheat of strong growth which stands till the "middle of June," will yield ripe seed, and, if he was so *deficient in good husbandry*, as to allow such a quantity of pernicious seeds to go to the stable and barnyard, that year, I cannot suppose he had been very nice, in excluding them from the manure, which had been applied to his ill-fated crop. A farmer who would suffer the seed of six bushels sowing of cheat, to mingle with his manure, need not be surprised—nor should he complain, if his crops of wheat should turn to cheat, for half a century to come, especially when injured by the fly or winter.

A third *fact*, by a Virginia correspondent, is found on the same page of the Cabinet. The skinless oats, which fell to the ground, and came up in the fall, he says, "he expected *would* perish in the winter," and I have no doubt that it *did* so perish. Yet, we are told that "in the spring, they put forth and grew finely, and when the heads came out not a single grain could be found, but as fine and flourishing cheat as I have ever examined." He anticipates the objection, that the ground contains seeds of the cheat, for he says "no grain had been sowed within a quarter of a mile, or housed or stacked near it for forty years." It must be remarked that this statement implies an admission that if there could have been cheat conveyed into the garden the plants might have originated in that way; and also, that the grain did contain cheat. Now, it is probable, that grain had been "sowed, and housed, or stacked" near the barnyard or manure heap, during the specified time; and, it is equally probable that the "garden" which we are told had been planted "with different kinds of vegetables for thirty years," must have been often manured, during that time. A far more likely way, surely to introduce cheat into the garden, than by sowing or stacking grain near it.

So much for the *facts.* Whether my explanations are adequate, the reader must determine. I consider them sufficient. I would, however, prefer to acknowledge my ignorance, than to annul the "laws of nature," by admitting the mutability of wheat, on the one hand—or, to give countenance to the infidel doctrine of *equivocal generation* on the other. If we can doubt the presence of a pre-existing germ, where a plant of cheat springs up, we may entertain the same doubts respecting every other being, of whatever kind. The same fortuitous chance which could produce a plant, could also produce a man, without the necessity of recurring to a "Great First Cause." And, if plants and animals can thus spring up, spontaneously, from nothing, so can all the innumerous worlds, which people the infinity of space—an idea too revolting for any serious and contemplative mind to entertain for a moment.

* See that work p.

The question is often asked—if the seed is contained in the soil, why does it only grow when sown with wheat? I answer, frankly, that I do not know. It is thought, however, that the growth of one plant may somehow affect the soil so as to dispose certain kinds of seeds, contained therein, to vegetate—for example, that the wheat crop may promote the vegetation of cheat.

Different manures may also favor the growth of different seeds. A dressing of ashes will cause clover, red or white, to spring up in almost any soil. In places where the locust tree (Robinia pseud-acacia) abounds it is remarked that the seeds seldom grow—yet they spring up abundantly in those spots where brush heaps have been burned. The same remark is also true, of the common poke weed, (Phytolacca decandra) and the fire weed, so called from the circumstance (senesio hieracifolius.) Now, in what way shall we explain these facts? Are the plants which thus spring up the mere transmutation of others? or are they the fortuitous productions of chance? Does the ashes itself grow, sometimes producing a clover—sometimes a locust tree—and sometimes a poke-weed? Or does it stimulate into action the dormant vegetating powers of the seeds, which pre-existed in the soil? Every one will, I think, admit the latter explanation. Experience teaches that many of the hard shelled seeds will not vegetate for years, if at all, unless the shell is prepared so as to admit moisture to the kernel. This may be done by cracking the shell, or by soaking in ley of wood ashes, or a solution of potash. Hence an easy explanation of the effect of ashes in producing plants not before observed.

New Garden, 3d Mo. 24th, 1838.

For the Farmers' Cabinet.

Summer Pruning of Trees.

Experience is the best teacher.

The right time for pruning trees is after the first running of the sap, from the middle of June to the first week in July. The reasons for it are—in the first place, when a tree is in full leaf you can better judge what branches to remove than when it is leafless. In the next, the wound heals over more kindly and effectually after summer trimming, than after winter or spring pruning; and lastly, suckers are not so likely to shoot out after midsummer trimming as if it was performed in the spring of the year. The writer of this has performed the operation extensively on a large number of trees of various kinds, the last week in June, with the greatest success, and has never seen a tree, in the least degree, injured by it. The practice is now becoming general among those who have the most knowledge of the subject, and it is hoped that those who are timid at departing from an old custom, will make a trial of it this season, on a scale proportionate to their faith, and rest assured disappointment will not follow the experiment.

Pyrus.

For the Farmers' Cabinet.

Moisture on Plants.

Dear Sir:—I was much pleased with the communication of your correspondent X., upon the subject of the *deposition of moisture upon plants.* The common mode of accounting for the cause why some plants show more moisture than others, even of the same kind, by ascribing it to greater powers of attraction, is as your correspondent observes, altogether erroneous. His own explanation is doubtless correct, as far as it goes, but there is one agency he has omitted to mention, the operation of which is more effective in the production of refrigeration or cooling, than evaporation. I allude to the process of *radiation.* It has been shown by actual experiments that almost all substances in nature possess the power of throwing off heat in different degrees, and as a general rule, those which reflect heat and light most rapidly, radiate or shoot off the heat most slowly. Reflection of heat is therefore a very different process from radiation. The first is effected most readily from bright and light colored surfaces, whilst those substances which shoot off or radiate heat most rapidly are usually rough and dark colored. Thus, if a piece of tin or any other polished metal be laid upon a grass plot, after sun-set of a clear evening, the bright metal will retain its warmth, and consequently remain dry, whilst the grass will shoot off or radiate its heat into the clear sky, and thus become cool so as to condense the vapor in the atmosphere, just as is done by a tumbler of cold water in warm weather. Here then we have the whole theory of the formation of dew, as beautifully explained by our countryman, the late Dr. Wells. Many who have not read the Doctor's treatise upon the subject, or heard it spoken of, may yet entertain wrong notions relative to the origin of dew, by supposing it a light precipitation from the atmosphere like a very fine rain; or an emanation from the ground; but the whole process is effected through the agency of radiation by which the plants and different objects on or near the surface of the earth throw off their heat in the absence of the sun, and becoming cooler than the surrounding air, condense the vapor coming in contact with them. Dew, as is well known, hardly ever forms, except the atmosphere be clear and calm.—Clearness is essential to active radiation, and calmness permits the air to rest in contact with the cooled surfaces sufficiently long to allow of the condensation of its vapor. The

different quantities of moisture collected upon plants or any other objects, depends upon their respective powers of radiation, those which become coolest always displaying the most moisture. Leaves which spread themselves in greatest luxuriance generally become the coldest. This luxuriance may proceed from the application of some stimulant to the roots, such as lime, ashes or plaster of paris. These substances do not therefore, as commonly supposed, attract atmospheric moisture directly of themselves, but merely render plants more capable of being cooled by the refrigerating agents which have been mentioned.

VARRO.

Philadelphia, May 21st, 1838.

For the Farmers' Cabinet.

Canada Thistle.

"Thou shalt not sow thy field with mingled seed."

Great mischief has arisen to our farmers generally, by sowing grass seeds which were mingled with the seeds of noxious and pernicious weeds, by which means they have been disseminated throughout our country. The Canada thistle was brought from the northern part of the State of New York in timothy seed, and is spreading rapidly in some neighborhoods to the great dismay of many farmers. I perceive that it has been noticed in your useful Cabinet, but I have not yet seen any thing stated in your columns that can be depended on as a remedy for eradicating it. I hope your correspondents will keep a close watch on this unwelcome intruder, and furnish you with the first successful experiment which results in getting rid of it. A farmer last season who had it among his oats, mowed it with the oats and burnt the whole together. This season it has made its appearance in his wheat, which will be destroyed by it in the part of the field where it has taken root. I hope you will excuse my calling attention to this subject, as it is one of great interest to many

FARMERS.

Bucks Co. June 1, 1838.

For the Farmers' Cabinet.

Capons.

In the last number of your highly useful periodical, I observe an article very properly recommending the production of Capons by our farmers and others, for the city markets. Your correspondent has the merit, so far as my knowledge extends, of first publicly noticing this important matter of agricultural economy. I say "publicly" noticing this matter, inasmuch as several gentlemen of my acquaintance have in various ways endeavored to accomplish this desirable object; but I regret to say without the least approach towards success.* Fowls have been by them operated upon in the West India mode by puncture, and in the Chinese and European manner by incision, but so far the result has been death to the animal, or its nature unchanged. They have endeavored to get information from books, and have even had the assistance of those who *say* they performed the operation frequently in Europe, but notwithstanding all of their attempts at mutation the object has not, in a single instance which I have heard of, been effected. I am aware that in the West Indies, China, Western Europe, and other countries, women and children are successfully employed in this kind of surgery, but it somehow happens that I have never seen a Capon in this country; although I must confess that I have frequently heard of them, and with your correspondent 'Civis' understood that the art was "easily acquired." Mrs. Glasse, in her directions for cooking a turbot, says, you must "take him;" and I should, by parity of reasoning, suppose that to eat a Capon you must first *make* him. Now will our friend 'Civis' put us on the right tack between this and next August, by which we may in the course of another year both take and *eat* of this delicious bird. If he feels the same interest which myself and many others do, he will doubtless comply with the request. I also agree with 'Civis' that it may be made a profitable business in this country, and may hereafter endeavor to point out the mode whereby persons with a very small capital, near our great cities, may make a livelihood, if not a fortune, in an easy manner. It should be remarked that the operation is not confined to the dunghill fowl, but that it is successfully extended to the turkey, goose and duck, both male and female. Should your correspondent find leisure to give us his experience and the *modus operandi* in your next or the succeeding number, I shall then endeavor to offer some suggestions which may be profitable to our farmers and others.

RUSTICUS.

* See Cabinet Vol. II. page 145.

To the Editor of the Farmers' Cabinet.

Peach Trees.

Sir:—By an error of the press, the latter part of the communication at page 308, "On planting peach trees," is rendered unintelligible; the manuscript reads thus:—"The subsoil of Jersey is ferruginous and acidulous. Lime and the calcareous earths, are correctors of these evils."

The worm in the root of the peach tree and the excressence on the branches of the Morello Cherry, are not the *cause*, but the *effect* of disease, which arises either from a poisonous subsoil, or an exhausted surface; the cure might be effected by carefully removing the soil about the roots to a considerable depth and distance, and replacing it with fresh rich

mould, with which lime or calcareous earth has been well mixed. The *old folks* understood well the advantage of this treatment, for at the 7th verse of the 13th chapter of Luke, we find the dresser of a vineyard petitioning the owner to let the fruitless fig tree stand another year "till I shall dig about it and dung it;" and I knew an excellent farmer, who, at the time of killing his hogs, reserved the blood, with which to dress his fruit trees; and this he did, by opening the ground about the roots, and pouring it upon them, closing the earth over it. And when, through age or infirmity, he found it necessary to remove a tree, he was careful to take away the earth in which it had grown, to a considerable depth, and replace it with the best mould he could procure, always mixing lime with it, and into this the young tree was planted. I have even known him to lay a pavement in the bottom of the hole before filling, if he found that the roots of the old tree had penetrated to a wet and sterile subsoil, to prevent the young tree from throwing its roots so deep. And for this man also, as well as for Mr. J. Reeves (see p. 297) *peaches would always grow.* His trees were so strong and healthy, and full of foliage, that they could bear a little frost, and throw off an attack of blight, which would be sufficient to prostrate the hopes of his neighbors for the whole year. The disease called the "yellows," I am confident, arises from the cause above mentioned.

An old Farmer.

For the Farmers' Cabinet.

Poultry.

"She that won't stoop to pick a pin,
Shan't stoop to pick a bigger thing."

For many years past, there has been a great demand for poultry and eggs, at high prices, and it seems likely to continue; for the causes which produced it are still in operation and are likely to continue and increase. The increase of steamboat and rail-road traveling in our country has produced an increased demand for all the luxuries of the table, beyond the current means of supply at moderate prices; it therefore becomes the interest of farmers to devote a little more attention to producing those articles which al-always sell readily and at a good price; particularly as the labor connected with the rearing of poultry, if labor it can be called, is light, and can be performed by the younger members of a family, without infringing on the time devoted to the more important labor of the farm. It is an agreeable relaxation if engaged in, in a right spirit, and has connected with it many pleasant associations.

It should be the care of those who engage in the business of rearing poultry on a large scale, to study sound economy in feeding them, otherwise they may be disappointed in the expected profit. With some there is great carelessness and waste apparent, particularly in feeding with food of a more expensive character than is necessary. Having seen large quantities of poultry raised and fattened for market principally on boiled potatoes, I take the liberty of directing the *girls*, who are your readers, to it; hoping that daily, when they boil potatoes for family use, they will put enough in the pot, over and above what may be necessary for the family, to feed the chickens till the next day, and so continue it from day to day, occasionally alternating it with other kinds of food for a relish, and depend upon it you will find,

"That a penny saved, is two pence earned."

Q.

For the Farmer's Cabinet.

Veterinarian.---No. 4.

3. Stone in the urethra.

I have adverted to the fact, that small calculi may, and probably very often do, pass away from the bladder, through the urethra. But such is the length, narrowness, and curvature, of the passage, in the ox, that we might *a priori* expect that they would sometimes become obstructed—and such is found to be the fact.

The general signs which denote the lodgment of a stone in the urethra, are somewhat similar to those we have before enumerated. The retention of urine is more complete—the obstructing body can often be felt in the trach of the urethra—and the canal, above the obstruction, will feel full and present, an elastic and fluctuating sensation.

When the stone can be felt, it may be forthwith removed, by a longitudinal incision. It may be proper to mention, that there are two *retractor muscles*, which originate from the pubic bone, and run downwards to be inserted into the middle of the penis. Their office is, to retract that organ within its sheath. This retraction causes it to bend upon itself, so as to form a double curve, opposite the scrotum. An obstruction at this curvature, is not so easy of detection—nor can it be *directly* operated upon. If there is reason to believe the mischief seated at this part a longitudinal incision must be made into the sheath just before the scrotum. The operator will then grasp the penis, and draw it forwards, so as to obliterate the curve. He will then be able to discover, and remove, the obstruction. The external wound may be closed with stitches.

This is, probably the most frequently fatal form of stone, among cattle. Many oxen are believed to die, of this cause when a little skill would have saved their lives. A neighbor of mine had a fat 9 cwt. ox with symp-

toms of obstruction of some of the urinary passages. Nothing was attempted, for his relief, and he died. The bladder was found ruptured, and a large quantity of urine had escaped into the abdominal cavity. A small stone was found, impacted in the urethra, very near the extremity of the penis, which had caused all the mischief. I have the stone in my collection, which weighs only *eight grains*—showing how small a matter may produce the most fatal consequences. A trifling operation would have removed the stone and saved the animal.

I have known several other cattle to die, under circumstances so similar as to leave little doubt, that their death, was occasioned by the same cause. How long will it be before sympathy for the suffering brutes, and a regard for their own interests, will awaken the owners of cattle, from their present apathy, to a sense of the value of veterinary medicine!!

The short and capacious urethra of the cow, affords a ready passage for calculi, from the bladder, and, in a great degree, exempts her from the sufferings of calculous diseases of the lower organs—but her organization does not protect her against such affections of the kidneys and ureters.

The formation of stone depends on a morbid state of the animal fluids, or, of the secerning organs, or both. When a superabundance of the earthy carbonates exists in the blood—or, is separated from it by the kidneys—the urine, unable to hold it in complete solution, will possess a tendency to deposit it, in the form of stone. In this case the deposit will be composed, principally, of the carbonates of lime, and magnesia. But when the acid products of the digestive process, are most abundant, the deposition from the urine will be of a reddish or brown color—a more light, porous, chrystaline structure, and consist of acid. The calculi of cattle, are said to consist of these two kinds. All that have come under my notice, have been of the former sort.

If a stone has been discharged, in any of the ways I have described—or, if a sandy deposition has been observed where the urine has been voided, it will be prudent to adopt the proper treatment, before more serious mischief results.

When there is a deficiency of acid in the urine, the deduction of chemistry will indicate the employment of acid remedies. The supertertrite of potash (cream of tartar) is well adapted to the purpose. If the acid is superabundant, the alkaline, and earthy basis, will be as strongly recommended. Of these, lime, soda, and potash, are most commonly employed.

These hasty remarks, on the calculous diseases of cattle, are intended to elicit inquiry and observation, rather than to afford a large amount of instruction.

I cannot dismiss this subject, without expressing my regret, that the subject recommended in my first number—the establishment of a Veterinary College, has been entirely overlooked, by the readers of the Cabinet. Companies can be formed, and funds obtained, almost any where, to build a theatre,—construct a rail-road, or dig a canal, even where the enterprize is of doubtful expediency—but the paramount interest of every agriculturist, the preservation of his stock from the ravages of disease, is almost totally neglected. When will the farmer study his own interest—and learn to attend to his own business?

New Garden, 4th mo. 24th, 1838.

For the Farmers' Cabinet.

Cultivator.

Pulverize well the soil.

The cultivator or hoe-harrow is now accounted among the most valuable implements possessed by the farmer; it destroys the weeds and pulverizes the soil effectually and cheaply. Those that are so constructed as to admit of being widened or contracted at pleasure, possess decided advantages for many purposes, particularly for working amongst root crops. As many of us have embarked more or less in raising sugar beet and mangel wurtzel this season, I take the liberty of calling attention to a cultivator made by William Beach, No. 428 Market street, between 12th and 13th streets, Philadelphia, which I think will be found superior to any other made in this part of the country for pulverizing the soil and clearing out weeds; it admits of expansion and contraction, is strong and durable, and every way adapted to the uses for which it is designed. BETA.

For the Farmers Cabinet.

Important to Farmers.

A machine has been invented by MILTON DAYTON, of East Hampton, Long Island, by which he threshes his own grain, at the rate of fifteen bushels per hour,—grinds it at the rate of two bushels per hour,—saws his own timber at the rate of one foot per minute, and dresses his flax in proportion. The machine is carried by a two-horse power. The expense does not exceed three hundred dollars, and a mere trifle will keep it in repair. It will be of great advantage to farmers, and especially in neighborhoods denied the advantages of water- power.

If a man deceives thee, trust him not again. If he insults thee, go away from him.

Communicated for the Farmers' Cabinet.

Sow Pure Seed.

"One year's seeding makes seven year's weeding."

It is very material when about to purchase seed, that we should select a seeds-man of first character, who has made the business his study, and obtained a thorough knowledge of it in its different branches, and not trust ourselves to transient dealers who may have their attention divided between many other articles of merchandise. Such persons may be strictly honest, and yet lack that information which every dealer in the article ought to possess. Always buy the best that is to be had without regard to a small advance in the price over a common quality, and put plenty on the ground, as I hold it to be no economy to save a few dollars in the purchase of seed at the risk of having it impure, or a less crop than the land ought to produce. It is also of great importance that we should become good judges of seed ourselves, or we may fill our fields with weeds that will require years of trouble, and much expense to get rid of. Many are unacquainted with the seeds of the most common weeds found in clover, timothy, orchard grass, &c.; such as wild carrot, daisy, (called underbloom by some persons, and Bensalem clover by others,) wild chamomile, (this also is called underbloom in some districts,) St. Johnswort, wild amaranthus, field sorrel, &c. &c., and as these pests are the common attendants of the grasses, their seeds should be known to us all. To attain this knowledge, I would advise every farmer to collect when ripe, the seeds of every weed they meet with, fold them carefully in paper, mark and put them away in some secure and convenient place to refer to at any time, until they become so familiar with them that they can detect them easily when mingled with any seed they are about to purchase, and should there be any weeds unknown to any of us on our premises, it would be well to dry specimens of them carefully, and send them in a fold of paper, tied between two pieces of pasteboard to the office of the Cabinet, where they would be marked by some one of the patrons of that work, and left for the inspection of all. In this way, there could soon be a collection made (to which the writer would contribute all in his power) that would enable the farmer to detect and extirpate many a troublesome weed, which would otherwise overrun his grounds.

To ascertain the true character of plants, they should be taken when they are in bloom, and they may be preserved simply by placing them in some large book with a sufficient weight to press them until they are dry, this will be accomplished in a few days.

Farmer.

For the Farmers' Cabinet.

Machine for planting Seed.

A very simple, useful and convenient apparatus for drilling beet and other seeds has recently been made and brought into use. It consists of a tin tube about an inch or less in diameter, and three feet and a half in length, the top widening like a common funnel. This is carried in one hand with the bottom of the tube on the ground where the seed is to be deposited, and the seed is put into the funnel with the other hand and immediately descends to the place of deposit. In this way a person passes on depositing the seed in the tube as he progresses with it along the row, by which means it is evenly dropped, and may be covered with a hoe or rake. This saves stooping, which is painful and inconvenient to those who have not been early in life habituated to it, and is particularly useful and grateful to those who have *long backs*. These simple machines, with a general assortment of tools for gardeners and farmers, and seeds in all their varieties and of the best and most approved kinds may be purchased of Landreth's in Chesnut street, above Second street.

S.

For the Farmers' Cabinet.

Grazing Neat Cattle.

This is a matter of great interest, and in order to its successful management it is all important that we start on right principles. The Editor of the 'Complete Grazier,' says that the feeding and fattening of cattle, whether for labor or for sale, is the most important in the whole economy of the grass farm. It, therefore, follows that the farmer should previously consider the *nature* and *fertility* of his pastures, and the extent and quality of his other resources—and, according to these, he ought to regulate his system of *grazing, soiling or stall feeding*. Those beasts only should be selected which evince the most *thriving disposition to fatten* with the *least consumption of food*, and depasture them upon such lands as are best calculated for the respective breeds.* Cattle ought not to be taken from rich to inferior soils—it is desirable to choose them from lands of nearly the same quality as those intended for their reception. It would be well for graziers to choose their purchased stock from an inferior soil. It is also proper in all situations not fully supplied with wholesome water, to avoid selecting cattle from those districts where it abounds in a state of purity.

The *practice* of *grazing* necessarily differs according to the nature of the land. In stocking lands, as the proportion of beasts must depend upon the fertility of the soil, it will generally be found that local custom

* Complete Grazier, 6th ed. p. 72.

which is generally the result of experience, will afford the surest guide. Instances are recorded in English works, of fifteen large bullocks and one hundred and fifteen sheep having been fattened on fifteen acres. The subdivisions of land, kept for the sole purpose of pasturing, should depend as well upon its fertility, as upon the number of different kinds of cattle to be fed upon it.* To render the grazing of cattle profitable it is necessary to change them from one pasture to another, beginning with the most inferior grass and gradually removing them into the best. By this expedient, as cattle delight in variety, they will cull the uppermost or choicest parts of the grass, and by filling themselves quickly, as well as by lying down much, they will rapidly advance towards a proper state of fatness. By this process, inclosures are rendered necessary, but great difference exists as to the most suitable size.

John Nicholson, Esq. in his valuable work, the Farmers' Assistant, says, "If a farmer has but three cows, and has three acres of the best pasture land, he ought to divide this into at least two parts, so that the one can be growing while the other is feeding. Again, if he keeps twenty cows, and has twenty acres of the best pasture, he will find his reward in having it divided into four parts, and pasturing each inclosure three or four days alternately. In this way pasture land will keep at least one-fourth more of cattle, and will keep them better, than if the pasture were in one field. Not only a change of pasture is beneficial, but a change of different kinds of cattle, in the same pasture, should be attended to. Thus let the milch cows take the first cropping of each field in rotation, then the horses and oxen, and the sheep next. In this way the last feeder will eat much grass that has been rejected by the former." Pastures should never be *overstocked;* that is, there should always be a sufficient quantity of food for the animals. It is also desirable that the large and strong cattle be separated from the weaker ones, as it frequently happens that where they are indiscriminately mingled together, the more powerful beasts will master the others, driving them from place to place, and trampling upon and destroying more food than they can eat.

To prevent these inconveniences, and also to stock the land to the greatest advantage the Complete Grazier recommends the following method of feeding and fattening cattle. "Suppose there are four inclosures, one ought to be kept perfectly free from stock till the grass is in its full growth, when the prime or fattening cattle should be put into it, that they may get the best food—the second best should then follow, and the young stock after all, making the whole feed over the four inclosures in the following succession:—

I. Free from stock, till ready for the best cattle.

II. For the reception of the best cattle, till sent to No. 1.

III. For the second best cattle, till sent to No. 2.

IV. For the young cattle till sent to No. 3.

Thus the fourth inclosure is kept free from stock till the grass is got up, and it is ready for the prime cattle. To which we will add that the inclosures should be finally gone over by sheep, by which they will be eaten down to a close and even sward, to the great benefit of the after growth."

In the management of land kept in pasture, no manuring is required to maintain its fertility, which will be increased and not diminished by the effects of pasturing. Any species of manure, however, will add to the productiveness of land in grass, and when from any peculiar cause, it is thought expedient to manure land in grass, the best kind of manure is usually lime, or composts of earth and lime, marl, &c. These should invariably be applied as a top dressing, that is, simply spread upon the surface, where vegetation has become inert at the fall of the year, or before it has become vigorous in the spring.‡

The above remarks are gathered mainly from agricultural writers of deservedly high reputation, and, you will oblige one deeply interested in the prosperity of agriculture, by inserting them in the Cabinet. J. P. B.

Burlington, N. J. May 30.

* See Farmer's Assistant.

‡ Professor Low's Elements of Husbandry.

For the Farmers Cabinet.

Injury from Destroying Birds.

The culture of the earth is the most primitive, natural and extensive employment of civilized life. It brings with it cheerfulness and affluence, and fosters them under its broad wing; never deserting nor weaning them from its parent protection. Every wise observer of cause and effect can tell that its increase in honor as an employment, and in profit as a support and source of individual and national prosperity, is a great result and criterion of refinement. A vagrant life and subsistence, like beasts of prey, by the uncertain toils of the chase, are the untaught evidences of ignorance and barbarity; hunting and fishing, but the instinctive resorts of human nature in its wildness.

The teeming dust from which Omnipotence framed the wonders of our animal economy is a fitting and proximate source, whence we might hope to derive its nourishment.—The savage of the wilderness permits the

land over which he roams to lie fallow, only because ignorance has sealed to him the letter and effect of that revelation which declares, "God formed man out of the dust of the ground." The unfoldings of that revelation, its diffusion, and the gradually increasing light of its expanding beams, have been ever the heralds, and cause of civilization, and with this agriculture goes hand in hand. The past, in all its manifold views and bearings, gives the proof of experience to the remark; futurity will sustain it by bringing to pass the prophecy concerning christianity and the effects of its spread, "they shall beat their swords into ploughshares, and their spears into pruning-hooks."

But agriculture is not only the most natural, it is also the most alluring and pleasant of the myriad pursuits of humanity. The variety of the apartments and furniture of nature, the glory of her colorings, the fragrance of her odors, and the ever varying hue and aspect of her seasons, are the great fountains of a variety, without which the existence of a changing and change-loving creature, would be a terrible monotony. It is pleasant too to plant in hope, and to watch through years of youth and bloom to decay. It is pleasant to train the vine, to pluck its ripening clusters, and to repose in the shade of its spreading greenness. It is pleasant to anticipate through winter, the flowers, the dew and the bright sky of spring. It is delightful to view the waving fields ripen unto the harvest. And though in turning the rank and reeking soil we may remember with a sigh that we are moving the wasted mould of many a one once as free in thought and life as him who guides the plough, the next flower that attracts the eye will chide our useless melancholy.

But we would not run wild with a general view of a theme so enticing to thought and fancy; we would but pursue a branch, a single small but important and prolific branch of this extensive subject; one which, though in its mention it may seem paltry and trifling, richly deserves a discussion among other branches which have received attention, to the exclusion of this, only because they are more superficially apparent.

This subject naturally presents itself in the two following divisions—and they will embrace the consideration of the whole object which we have in view. 1st. The intimate connection which exists between the interests of agriculture, and the increase and diminution of our indigenous birds, and the injury resulting from their wanton and indiscriminating destruction. 2d. The best means of putting an end to this injury with its cause—and as far as possible in the limited space which is allowed us—we will endeavor to prove that these topics are not by any means to be overlooked and slighted in the different views of the general subject of agriculture.

Those who believingly adopt the atheist theory of a chance creation, must in consistency discard that ultimate doctrine of christianity, that every thing however diminutive it may be, is formed for some end. We are glad that we differ from them. We rejoice in believing that every existence animate or inanimate is a member of a vast and united family of servants and worshippers, that nothing is formed in vain, that every atom has its task to perform, as surely as every spirit an account to render. Idleness is an unnatural word coined to describe an unnatural propensity. In the wide sense of subservience to a divine design, the world knows not the term, nor the trait which it describes. There is nothing idle, for good or for evil, for weal or for woe, rearing or casting down, building, or bringing to nought, for judgment or in mercy, creation is a vast and faithful agent, doing the biddings of an Almighty and Omnicient Governor. Our subject is intimately connected with the idea, let us apply it more practically.

We think we may say, without fear of contradiction, that none of the birds of the air, not even those which are now most sought, for that purpose, were originally created expressly for food, and yet that seems to be the only light in which we regard them. Our first parents and their posterity, till after the flood had ravaged the earth, and changed our race and the laws of life and conduct under which they were created, were forbidden to eat of that which had life. The whole animal kingdom was interdicted as food, a fact which modern epicures may believe with wonder. And even now, when by permission rather than command, the primitive rule is abandoned, and we destroy life to appease the cravings of hunger, thousands of species, both of beasts and birds, bear, whether rightly or through mere caprice, the character of uncleanness. Nay, even of those of the feathered creation, which do not come under the latter class, a vast number are too small and worthless to be seriously sought for as food, too diminutive and paltry in appearance and availability as conducive to subsistence, to reward the labors of those who would look to them for a supply of their wants—unavailing as far as any direct influence upon man is concerned but to please his eye, and thrill his ear with their melody, and yet it is with these smaller members of the tribe that we have now, chiefly, to do, in pursuing our subject. These diminutive and seemingly worthless, though pretty creatures, are, strange as it may seem to those who think that to kill them is so pleasant and agreeable a sport, of immense advantage in the great design and economy of na-

ture. That these species, then, were created at first, or are now permitted to exist and increase, merely to supply food to our race, is an idea, which any one but he who is endowed with a Lilliputian mind or appetite will discard. For what then were they formed? for certainly they are the work of design—the produce of a hand whose omnicience covers at an onward glance, the whole existence of the object he is framing. What is their duty in the great business of the universe! With the solution of this question we open up our subject to the reader, and give it forth to the agriculturist from its obscurity, as a subject worthy, at least of thought.

The nature and habits of birds, are as widely different, as those of the more familiar, because more accessible beasts, and therefore we would not be understood as saying, that all, even of these more diminutive species, are useful to the farmer. It is not so. Some are of no use, others decidedly injurious, and with the latter we would hold no terms; we would say, destroy them in any manner which in itself would not do more injury than it would prevent if successful—but a large number of these creatures are most useful and faithful servants of the tiller of the ground. And that is not all; their labor is manifold. A great multitude unite with some of the beasts and larger birds, in doing the vast and indispensible duty of removing the impurities of decaying vegetable and animal matter, which but for them would be a much more prolific source of miasma and disease. They are the great unpaid and unthanked scavengers of the earth. While myriads, as we have said before, are the assistants and ready instruments of the farmer, and through him of mankind. Let him who would derive information to strengthen our remark and his own convictions, consult the natural history of this curious and beautiful race—and his doubts will vanish and give place to a light which should long since have shone upon him and guided him in reference to this matter. He will find that almost all our most common and numerous birds nourish themselves and their young by the insects which are so destructive to greenness and fruitfulness—a very few species, to which we have referred before—destroy the useful produce of the earth, and even they do not half the injury which is caused by the trespasses of their paid slaughterers. But their ravages are far overbalanced by the multitudes, and they the most persecuted because the most inoffensive and exposed, whose sole occupation is the rearing of their broods and the instinctive search for and destruction of these insect enemies of vegetation—the worm which consumes and corrodes the thriving and spreading root—the fly which wastes the green and shady leaf—and the myriads of other tiny but baneful creatures—the almost microscopic vermin of our fields and gardens, which canker, decay, and disease, if they do not devour, the tender and budding plant—and which are only less in number and less formidable than the locusts of Egypt because of the services of the race which some look upon as only made to be destroyed.

But let us further inquire if we would have still larger and more impressive ideas of the importance of our subject, what are the most numerous and general causes of the great and distressing fluctuations in the quantity and quality of the produce of our fertile and almost illimitable country, and the necessarily consequent variations in those branches of our commerce of which agriculture is the more direct and immediate parent and even in those which are more remotely connected with it. What destroys, year after year, the growing fruits of many a faithfully wrought garden, the luxuriant and hard earned grain, of many a waving field, nipped in their bloom and consumed in their beauty and promise by some untimely and alas increasing cause. The great staples of many of our states are wasted and ruined too often to allow of supineness upon the subject. We would point a finger which would warn while it instructs, to the teeming answers to the questions we have proposed, which stand forth in the numberless paragraphs which the journals of many a season of want and hunger unfold, and which tell sadly of a cause and effect, in regard to whose prevention we are powerless, without the aid of the persecuted tribes whose services we have been eulogizing. And what is still more alarming, as the hum of business and settlement increase, as the mouths which are ready to devour the produce of the soil become more numerous and clamorous—the cause of this want is increasing, and its only remedy becoming every day less proportionate in power to the duty which it performs. It is a gloomy thought, but gloom is not enough; the evil is serious, but like other evils whose progress is slow, and whose causes are minute and ramified, they are not duly appreciated; the subject needs combined reflection and steady action. Let our remarks especial impress on the young the thought, that every missile aimed in sport tends to take food from the mouths of the poor and famishing—that if successful in its aim it destroys its pretty victim, however small in proportion may be its immediate and perceivable effect,—it deprives the agriculturists of the life-time labor of one faithful servant at least, perhaps of more who perish in a deserted nest. Let them make him remember that every swallow which pierces the air, so long the sprightly mocker of his ambitious sportsmanship, so long aimed

at in hope, but perhaps in vain while on the wing but slain in revenge when it alights to rest, is making more sure and effective the seed of the sower, is surely increasing the bread of the reaper, and food for industrious poverty and national wealth. The race was not formed in vain. Each one has its task to perform; we sin in wantonly destroying them, first against him who made them for his glory, then against ourselves, willingly ignorant of their untaught "labor of love."

We would appeal, then, to the young, the most active and thoughtless enemies of the feathered creation: to the rising generation, the hope of the country, who are unwillingly, and perhaps, as far as motive is concerned, innocently doing that country which it is their high ambition to serve, an injury, which is irreparable, and deep. And what is more directly interesting to themselves, though perhaps not so deserving of thought, they are by every act of destruction, injuring that disposition, and those sensibilities, which are so lovely in many of the young, but which is lost as manhood steals apace, perhaps by the united indulgence of this and other hardening habits. If to such an aspiring youth, joyful and giving joy, in the glad hope and promise of future usefulness, the soft intercession against cruelty of a tender mother or a fond sister, come in vain, or are derided and disobeyed, as the weaknesses of feminine hearts, we would offer the higher and more sacred consideration, that if they are too manly to yield to such mild petitions, they should be manly enough to feel and to be proud to feel, a responsibility for their country's welfare, breaking in with every ray of knowledge, and beating with every pulse of young and buoyant life. They are not too young to be gladdened and ennobled by the thought that even they are contributing their mite, and that in a comparatively important way, to national honor, growth and advancement. We appeal to all their warm and peculiar feelings which can be brought to bear upon the subject, that we may induce them to give, if not their positive assistance in helping on the work of reformation in this respect, at least their negative aid in restraining their own strange propensities and temptations to slaughter, for amusement, this useful race.

If then, these creatures, when considered collectively, are of so much advantage and profit to the cultivator, and have so important a connection with the agricultural interests of the community—if their destruction is so widely and inconsiderately carried on, and their decrease so rapid and alarming—if the fact presses upon us that even in this the youth of our government, when our jubilee of republicanism has scarcely passed, and in his thinly settled state of our country, we are fast losing from eye and ear the flight, the song, and especially the services of these feathered fellow-workers in the culture of the soil—if they are fast disappearing from among us and around us, fast yielding to the hum and the danger of crowded settlements and busy and wanton life, and leaving their annual work undone,—we must awake; as a great agricultural people we must awake and look to our interests; we must protect these servants in their old habits and employment—or we will gradually, but irrecoverably lose their services. With these reflections we are brought to the remaining part of our subject—Is there no remedy for the evils we have described?

And first we would propose the attainment of this great object, to the parents, guides and preceptors of the young—they are the great fountain head of effort, the sources of deep and well directed endeavor. We would propose it to them as patriots, as friends and upholders of the stalwart farmers of our country, the strength of the community, the honor of our government, and especially as affectionate well wishers to the youth over whom they have the charge and oversight. They must feel its importance; let the feeling guide them in social counsel, training and government. Let them teach, with other more usual branches of instruction, the sin and folly of the species of cruelty which constitutes the injury complained of; and we need not look beyond their labors for the remedy of this evil. They are supreme, each in his own circle. Let them in kindness, but with unyielding steadiness, perform toward their offspring, this with other family duties and the work is done. But we are not over sanguine in this view of the subject. United and combined effort in this quarter, cannot be reasonably expected. Truth may take root and flourish here and there; but as for a general and immediate attention to the object proposed—it is scarcely thought possible at least it is improbable.

Again we would appeal to the self-interest of owners and cultivators of land. They must, surely, be ignorant of the injury which is in progress when they allow it to go on unreproved before their eyes. We would appeal even to their own selfishness and love of gain, if no higher motive will reach them, and entreat them as their influence gives them opportunity, to give themselves to a work, the first consequent of whose success will be their own welfare, the second the welfare of their country. They are supreme, each one over his own territory, be it large or small. Let them resist and punish every trespass of the wanton slaughterers of birds—let them declare war against the whole tribe of truant murderers, whose daily sport

is the spoiling of the nest, the invention of new and the use of their old and destructive snares, and the more immediate devastations of gun and bow, and missile. Let our sturdy farmers hold themselves forth as steadfast resisters of every such act, and more particularly of every entry, for this purpose, upon the lands for which, as stewards of our country's prosperity, they are more immediately responsible; let them do this work with all their might, and again we say we look not beyond them for ultimate success. To encourage such an action, to make it more universal and more strong, to embody public sentiment, to warm to feeling and exertion by comparison of views and mutual counsel, to reciprocate alarm and warning, to give a salutary tone to public aim, and to throw a greater light upon the subject, the assembled strength of our agricultural community might do wonders. Let them meet in their power and give a start to the object in view, a fair experiment to the means which lie in their own power as teachers of the young and possessors of the soil, and some good may be done—the ball of reform may be set in motion. But as we have said before we are not over-sanguine in our hope concerning the success of any or all these schemes and appeals; we look high for the source of assistance and remedial action, to which we think the way lies clear, our readers will pardon us if we retrogade in presenting it.

To foster and protect the agricultural interests of the community is a high and sacred duty of every government, but especially of one which boasts itself republican. Agriculture, to use the language of another, "is the breast from which the state draws its support and nourishment;" and we may add, it is the great index of prosperity and refinement. It is the great popular pursuit. The resource of indigent, but enlightened industry; the reservoir of large and busy, but stable capital; the mild seducer from idleness and worthlessness; the quiet and honorable retreat of reformed or high minded poverty, the first love of those who grow weary of the crowd and hum of a city, the last love of those who retire upon wealth or a competency. It should be the protegé of those in power, the representatives of constituents who are its zealous votaries.

We look then to legislative enactment for our remedy. It protects game for sportsmen, who disregard all fear of trespass in its pursuit. In many states it offers a large reward for the destruction of the noxious birds, whose numbers are small, but whose paid destruction is of evident injury to the farmer! Those who take advantage of the bounty offered being, usually, miscreants who care no more for the laws of property, than for the lives of the myriads of serviceable birds which fall in common with the proscribed species. We look to legislative power for the uprooting and extermination of this evil. Will not our representatives protect their constituents and their country!

We will not stay to specify the particulars of the law which we would wish to be fulminated against this evil. We would only say that with half the ingenuity which is yearly expended upon more favorite enactments, the power of offended government might be readily brought to bear upon offenders, by a well contrived system of rewards to discovery and prevention, and punishments to transgression. This united with and enforced by the labors of possessors of the soil, and trainers of the young, would soon be effectual, in the attainment of our object.

In concluding these remarks will the reader pardon us in again reiterating the importance of the subject. The evil done by insects is often unseen and unknown, but enormous; the number of their destroyers is fast decreasing, and can never be renewed; without them we are helpless; and agriculture deprived of servants and services which cannot be replaced.*

A Mulberry Plantation.

In the selection of a site for a mulberry plantation, the following considerations should be strictly observed:

1.—The soil should be *sandy, gravelly*, or *light loam*, with a loose subsoil in either case, because these are the soils that the mulberry delights in.

2.—The situation should be high and dry, with a southern exposure, because, first, high situations are less affected by the frost, there being a difference of about 14 degrees between the temperature of elevated and *very low* situations,—and secondly, *because* vegetation is earlier on a southern exposure than on any other, and the mulberry planted thereon would afford foliage two weeks earlier than on others.

3.—The mulberry orchards would be best if protected by a woods on the *north* and *west:* should there be no woods, a hedge of white mulberry might be raised in a few years, with but little trouble: and this, in addition to keeping off the piercing winds of winter, would afford considerable foliage for feeding.

4.—The *water* should be *soft*, such as promptly yields a rich lather in the operation of washing, as without the water is soft the cocoons do not wind off well. Water impregnated with iron or limestone is particularly unfavorable to the operation of reeling.

Farmer & Gardener.

*Will the author inform us when and where we may have an interview with him.

For the Farmers' Cabinet.

Deposite of moisture on pulverized earth.

Those who have accustomed themselves to regard the growth of trees and plants must have observed the powerful agency of a free, open and deeply pulverized soil in promoting their healthy, vigorous growth and expansion. This was so much regarded by Tull, the celebrated agriculturist, that he at one time embraced the opinion, that nearly all that was necessary to insure the return of a luxuriant crop, was to preserve the earth in a thoroughly pulverized state to a great depth. His success in carrying out this theory was great, but there were other circumstances constantly aiding in the production of his results, which he did not perhaps duly estimate; for science in his day had not unfolded the mysteries connected with the nutrition of the vegetable world; but the benefits derived to agriculture and horticulture from his experiments in thoroughly pulverizing the soil to a great depth can scarcely be appreciated at their full value by the cultivators of the soil. It is of vast importance to us to know, not only that certain causes produce given effects, but also to know how, and why those effects are produced. Many rest satisfied with knowing results, and trouble themselves not with the examination into the various causes which have conspired to produce them.

Every intelligent farmer is fully convinced that frequent stirring the soil of his corn field, essentially promotes the growth of the plants, and enables them to withstand the absence of rain for a long time during our summer droughts, without much, if any, injury to the crop. The reason of this is not apparent to every one without some reflection, for I have heard it blindly asserted by the inexperienced, that turning the soil over and over in very dry warm weather would more thoroughly dry the whole mass; but this is evidently not the fact, for daily experience proves that frequent, and thorough stirring of the earth, enables it to absorb, preserve and retain a much greater quantity of moisture than it otherwise would.

The atmosphere at all times, and particularly during the heat of summer has suspended in it a very large quantity of moisture in a state of minute division. Davy says it is equal to 1-14 of the volume of the air, and 1-21 of its weight. Now the soil being finely pulverized and kept loose and open, the air with its accompanying moisture, pervades the infinity of interstices between the particles of the earth, and deposites its moisture which is absorbed by the dry earth, and kept in store till the absorbing fibres of the roots seize upon it for the nourishment of the plant. This process is constantly going on, and particularly so during the absence of the sun's rays, and keeps the plants, where the soil is properly pulverized and frequently moved, in a healthy flourishing condition under circumstances which appear very unfavorable to their growth. But in order to insure so copious a deposition of moisture from the atmosphere as to be beneficial in any considerable degree, the soil must be kept in a state of minute subdivision, for it then presents a much more extensive absorbing surface to the action of the air, and the aggregate amount of the open spaces or interstices between the earthy particles is vastly increased by it. A cubic foot of earth presents a surface of six superficial feet, but if it were broken into small particles not larger than a grain of sand, the aggregate amount of the superficies of all those particles would be many millions of feet exposed to the action of the air, and absorbing moisture from it. All substances, when pulverized, are increased in bulk by it, and this increase is proportionate to the minuteness of the subdivisions. A ton of plaster of paris may be ground so as to measure 18, 20 or 25 bushels. The finer it is ground the more bushels it measures, but the weight of a bushel is less, if it is finely pulverised. This is occasioned by the interstices being increased, because more numerous, in consequence of the increased number of particles being less compactly arranged.

Plants must have their food in a state of solution, and for the preparation of it, moisture is indispensible to dissolve it, and in dry weather they must either suffer for want of nourishment; moisture must be applied by artificial means, which would be impossible on a large scale; or the soil, must be kept in such a state of subdivision as to permit the atmosphere to come in contact with the greatest possible amount of surface of the particles of the soil, to make its deposites of the fertilizing moisture; which it will never fail to accomplish, provided the farmer performs his duty by keeping the ground sufficiently open to enable it to have free ingress and egress.

It has often been noticed that a piece of ground which has been suffered to become consolidated, is perfectly dry, and the plants in a state of starvation; while a contiguous plot which has been duly pulverized, and frequently stirred, has been found to be sufficiently moist throughout to preserve the plants growiug in it, in a high state of health and vigor. Our good farmers, and all of our successful gardeners in the neighborhood of Philadelphia, are fully aware of the benefits derived from keeping the soil loose and finely pulverized, particularly in dry weather; experience has taught them this, and they are diligently teaching it to those they have about them; but I thought it might not be amiss to

throw a few hints together for your very useful Cabinet on this very important and vital subject, particularly as I have observed in my travels through the country that if the theory is understood, there are many who do not practice in accordance with its requisitions.

I hope that farmers generally will keep their cultivators moving briskly through their corn fields this season, to stir up the soil to greater fertility and profit.

"He that by the plough would thrive,
Himself must either hold or drive."

X.

For the Farmers' Cabinet.

The Strawberry and Grape.

It is a matter of importance to farmers who attend market regularly with butter, poultry, and other productions of their farms, to turn their attention more than most of them do, to raising fruit of the most valuable kinds for sale in the market, as well as for home consumption. Attention to fruit trees, furnishes an agreeable pastime to the younger members of the family, and produces *home attachments* which are important to be inculcated in youth of both sexes, and at the same time may become a source of considerable profit to an industrious, intelligent family.—A good strawberry bed, occupies but little room, and requires but little time to keep it in good and productive order, which the pleasure derived from so agreeable and wholesome a fruit would repay four fold—but if it should be extended a little beyond the wants of the family circle, and their friends, would become a source of considerable income. I have seen a strawberry bed, not half the size of a common kitchen garden, which produced to its worthy owner more than five hundred dollars a year clear profit; a sum much greater than is realized on an average from more than half the farms in Pennsylvania, of 100 acres and upwards.

The grape is also a fruit much sought after in our markets, occupies but little room, requires but little labor, and meets with a ready sale at good prices, and furnishes an agreeable, cooling, refreshing relish in a family. The more delicate kinds of foreign grapes are too uncertain to justify their cultivation in our climate unless under peculiar circumstances; but the Isabella, the Catawba, and the Elsenborough are all hardy, native grapes, and can be raised with certainty of success in any part of our country.

There are other valuable kinds of grapes that stand our climate and do well, but those named are readily procured, are well known, and the fruit much esteemed. A gardener near the city, who has been referred to in the last number of the Cabinet as eminently successful in the prosecution of his profession, informed me that a few years since a friend gave him a few of the Isabella vines, which he planted on an arbor near his dwelling, and that last season after giving away several hundred weight to his friends and customers, and amply supplying his family circle, he sold six hundred and sixty pounds at ten cents per pound, producing $66.00. The expense and trouble connected with their production, is too small to be taken into the account.

A worthy gentleman residing at Camden, N. Jersey, causes to be sent to the Philadelphia market several thousand weight, annually, of the Isabella and Catawba grapes which are sold at from 10 to 12 cts. per lb. The Elsenborough grape is small, but it is perhaps the best native grape we have; vast quantities of them are raised by the gardeners and private citizens of the ancient and honorable city of Burlington, and the exhibitions of the Horticultural Society annually display quantities of the finest specimens of this most delicious and valuable native fruit.

I bring into view the strawberry and grape only, each of which is raised with less expense and trouble than the potatoe, and is much more profitable to the producer; but there are many other descriptions of fruit equally worthy of the attention of farmers and perhaps equally profitable; the raising of which is shamefully neglected, but which it is sincerely hoped will soon claim the attention of all worthy cultivators of the soil, for the profit to be derived from it, for the purpose of cultivating habits of industry and *home pleasures* as well as the public good.

"They shall plant vineyards, and eat the fruit of them,"

WEST.

For the Farmers' Cabinet.

Marl.

The Cabinet having an extensive circulation in different parts of the United States, and the marl or green sand of New Jersey having claimed the attention of some of the writers in it, and as this is a very different substance from the marls of Europe, which are often referred to in books on agricultural subjects, it may be a means of preventing erroneous opinions from taking root, briefly to note their difference.

Chaptal says, "that numerous analyses have been made by him of the marls of the centre and south of France, and that he has found them to contain from 10 to 60 per cent. of sub-carbonate of lime, from fifteen to fifty of alumina, (or clay,) and from fifteen to sixty-six of silicious sand; and he further states

that marl is often produced by the decomposition of silex or flint."

The late Dr. H. Seybert, was, it is supposed, the first who analysed the green sand or marl of New Jersey. He found in a specimen from Rancocus creek, Burlington Co.

Silex, - -	49.83
Alumina, -	6.00
Magnesia, -	1.83
Potash, - -	10.12
Water, - -	9.80
Protoxide of Iron,	21.53—99.11

With a trace of Chrome.

By the above it will be perceived that there is no lime in its composition. Professor Rogers who has made a geological survey of New Jersey which is before the public, furnishes the analysis of various specimens from different localities, accompanied by many interesting practical remarks in regard to its application to the soil, and its effects on vegetation, which have been of great value to the farmers of that state. The result of his analysis don't differ widely from the above. Sometimes more or less carbonate of lime was present, and the other component parts varied their proportions; but in all cases where it has been applied to the soil as a manure, the effect produced by it, was in due proportion to the predominance of potash in its composition, without reference to the other ingredients which are in combination with it. This article is not found in Pennsylvania, nor is it known to the writer to exist in any part of our country, except in the sandy, alluvial soil of New Jersey, Delaware and Maryland, and perhaps the alluvial parts of the states farther South.

Extensive preparations are said to be making to use the green sand or marl in Delaware and Maryland, where you have numerous subscribers, who would feel under great obligations to any of your correspondents who would enlighten their path in the practical use of this comparatively new and valuable manure. T.

Management of Grass Lands.

IRRIGATION.

The fertilizing effect of water on the earth is one of those natural phenomena which every where force themselves upon the attention of mankind. Water is seen to be essential to vegetable life. In those climates where evaporation is the greatest, nature has generally provided the most plentiful supply of this fluid, in rains and dews. But the rains often occurring at a particular season of the year, are insufficient for the life and nourishment of useful plants during the remainder, and the art of the irrigator is therefore necessary to produce fertility. Without the artificial conveyance and distribution of water, some of the most fertile countries in the world could not have supported their inhabitants; and the earliest husbandmen accordingly knew and practised the watering of lands as an art. In Egypt, where the great inundation of the Nile soon taught the inhabitants the value and uses of irrigation, this art is known to have been practised on a scale of surpassing magnitude; and the canals and vast artificial lakes of that celebrated people, though less enduring, are more praiseworthy monuments of their genius, than all the temples and cemeteries with which they have covered their country. From the valley of the Nile, it is to be believed, the knowledge of the art would be extended to many countries. To the Greeks and the Romans it was well known, and the rustic writings of the latter abound with allusions and rules relating to the watering of land. Without water collected by art, rice, which furnishes food to the greater part of the human race, could not be cultivated; and over the vast regions of Southern Asia, accordingly, the watering of land from rivers, brooks, lakes, and wells, is a labor essential to the support of the inhabitants. In all the southern countries of Europe, the art is more or less practised. It is there that the water is conveyed in little channels to the corn fields, to the vineyards, and to the olive-trees. The conducting of it from the rivers and canals, and measuring it out in determined quantities, form, in several parts of Italy, a nice part of the science of engineering. In Piedmont, and the whole valley of the Po, the water is frequently paid for by the hour, and the utmost care is bestowed in economising so precious a substance.

The main object of irrigation, however, in all the intertropical countries, and in the warmer parts of the temperate zones, seems merely to be to convey to the ground that quantity of water which is necessary for the growth and nourishishment of the plants to be produced. Sometimes, as in the case of rice, the earth must be saturated for successive months, and, in others, merely watered at intervals, during the periods of greatest evaporation. In all these cases the main purpose is the same, namely, to supply the deficiency of water in the soil; and this creates a great distinction between that species of irrigation which has been described as called for by the wants of man over so great a part of the globe, and that to which we apply the term watered meadow.

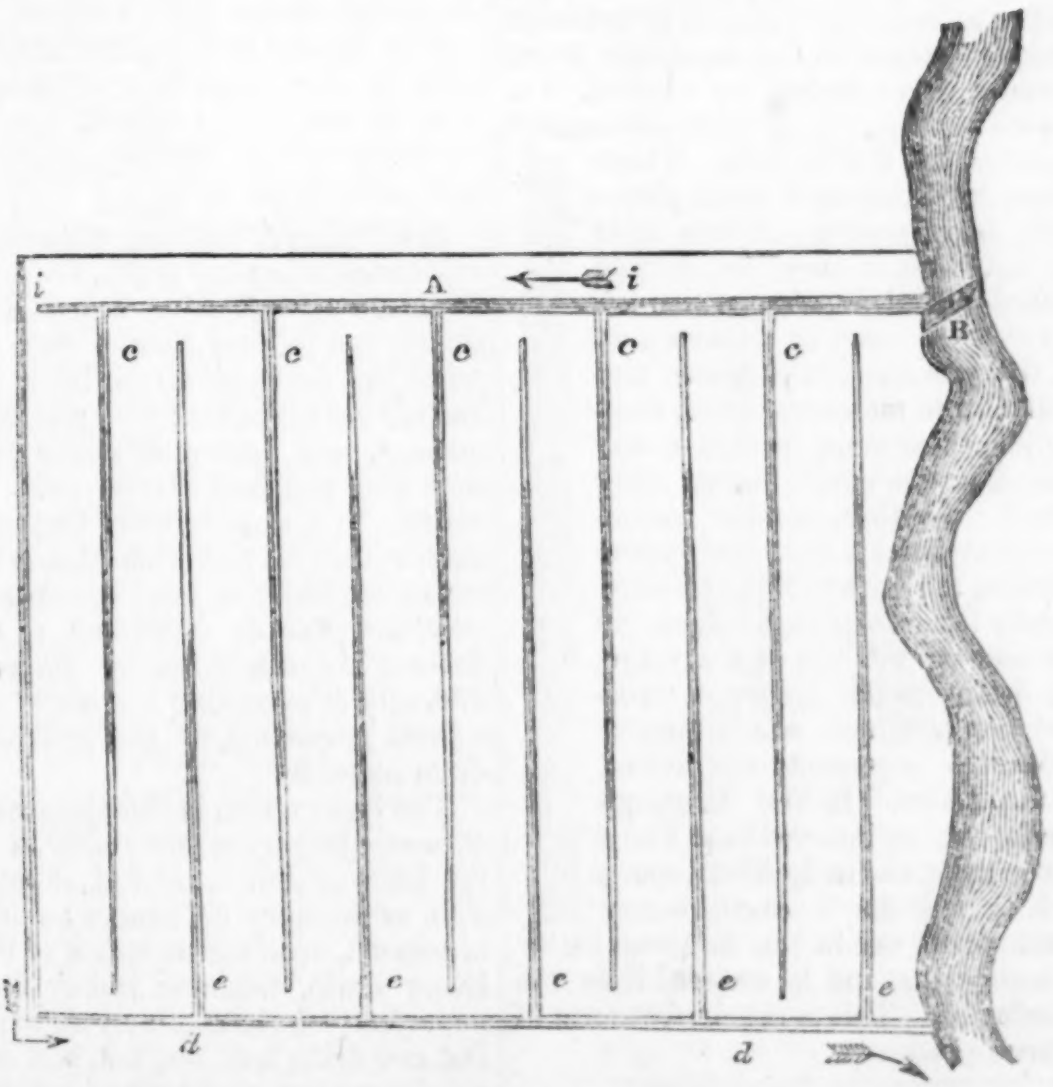
In the latter case, the purpose is not to supply the deficiency of water in the soil, for the water is conveyed over the surface at those times, namely the months of winter, when there is an excess, and not a deficiency of moisture. Nay, it is held necessary in every well-formed watered meadow, to drain the

ground very thoroughly of all subterraneous water. Nor is this the only distinction between the two kinds of irrigation. In the one, the water is generally allowed to stagnate until it shall have saturated the soil; in the other, it is never allowed to stagnate, but is maintained in a constant flow over the surface.

In one respect the two kinds of irrigation may serve a common purpose, that is, by the deposition of mud or other fertilizing matter upon the surface. The principal effect, we may believe, which the Nile produces in its periodical overflowings, is the supplying to the soil of the mere element of water, without which an arid soil, in a country where the rain is scarcely known, would hardly produce any thing. But this effect is plainly greatly increased by the large quantity of mud which the river deposites. In the case, too, of the watered meadow, the water may, in like manner, deposite a fertilizing sediment; but this, though it always adds greatly to the effect, is not essential to the producing of it; and waters entirely free from all perceptible sediment, are yet successfully employed in the case of the watered meadow.

In the watered meadow, a stream of water is to be conducted to the surface, and caused to flow over it in a constant manner; the meadow to be watered, for the most part lying upon the bank of the river from which the water is conveyed, and forming a flat surface, or rather a gently inclined plane. To the highest part of this inclined surface, the water is conveyed in what is termed the main conductor, either by building a wear or dam across the river where the water is to be taken off, or by bringing it from a higher source. In the following diagram, A represents the main conductor, and B the wear or dam.

Fig. 63.



From the main conductor, and as near as possible at right angles to it, are taken off the various feeders, *ccc*, &c. These consist of small trenches four or five inches in depth, made widest, as a foot or sixteen inches, where they issue from the main conductor, and gradually lessening as they recede from it. They may be formed at the distance from each other of forty feet, or less, being nearer where the soil is stiff and retentive, and further distant where it is loose and porous.

The water is thus conveyed to the surface of the meadow. But it is necessary that it should maintain an equal flow over the ground, and so be carried off as quickly as it is admitted. This is done by means of the main drain *dd*, formed at the lower part of the meadow, and the several smaller drains,

eee, &c. passing between the intervals of the feeders, in the manner shown in the figure. These small drains are of the same dimensions as the feeders, but are larger where they enter the main drain, and become gradually smaller as they recede from it. The main drain conveys the water back to the river from which it was taken.

But often this main drain becomes in its turn the main conductor to another meadow on a lower level. For the water which had floated the upper meadow being collected in this drain, can be carried from it by means of feeders in the manner described, and again collected in a drain below: and in this manner various meadows may be successively floated by means of the same water. And even where the lower meadows are nearly on the same level as the higher, it is still expedient to resort to this repeated collection of the water in drains, for it is found in practice difficult to preserve the equal flow of the fluid over a very large extent of ground.

In order to keep the water as it descends through the feeders, at the necessary level, and to cause it to overflow the surface, it is interrupted in its course by what are termed stops, placed in the feeders. These sometimes may consist of small pieces of plank, each resting on two little stakes; but oftener they are merely sods placed in the feeders, which are sometimes fixed down by wooden pins.

Fig. 64

It is the province of the person who superintends the meadows, when floated, to adjust these stops in such a way as to maintain an equal current over the ground. Further, in order to convey the water quickly from the feeders to the drains, the surface of the meadow is generally formed into low ridges, the feeder being on the top of the ridge, and the drain in the hollow, a transverse section of which would appear thus:—Here *b* represents the feeder, and *aa* the drains. In the language of the irrigator, the interval from *b* to *a* is termed a pane; and in fig. 63 the space *ii*, which is left for a carriage-way above the main conductor, is termed the main pane, and is watered from the main conductor. This is the perfect form of the watered meadow.

☞ Our worthy correspondent, J. J. M. from whom we hope to hear soon again, is mistaken as to the *wherabouts* of Agricola.

If you have a wife, take care of her; and if you have not, get one immediately.

If you are persecuted regard it not, but beware of persecution.

Elements of Practical Agriculture.

DRAINING—Concluded.

Sometimes, in place of an auger-hole, wells are sunk at intervals along the side of the drain, and filled with stones in the manner shown in the figure.

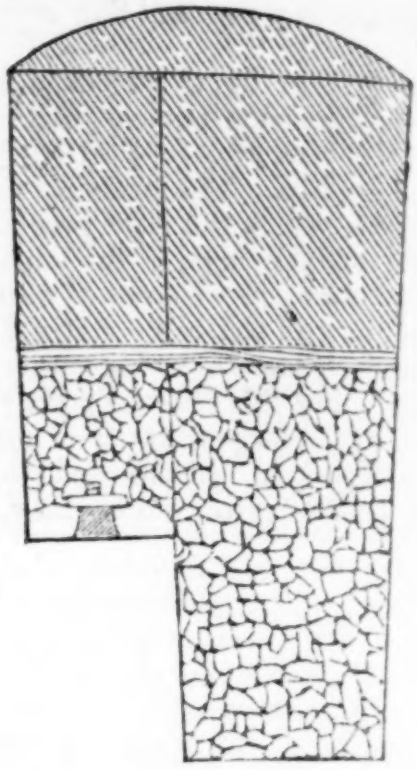


Fig. 65.

In all cases of draining where the water to be reached is at some depth, the drains should be made of sufficient dimensions. They should not be less than 4 feet deep, even when the pervious strata lie at less depth; and the reason is, that they may be more permanent, and better defended from injury from mud and sand carried down by surface water. It is not necessary that they be made deeper than 4 feet when that is found to be sufficient; but they must be carried, if necessary, to the depth of six feet, or even sometimes of seven feet, though the expense and difficulty of executing the work increase, in a great proportion, as the dimensions of the drain increase.

The importance, in this species of draining, of proceeding upon principles in laying out the lines of drains, instead of acting at random, as so many do, cannot be too strongly impressed upon the attention of the drainer. Every drain, however rudely devised, and imperfectly executed, may do some good.—But one drain well laid out, and of the required dimensions, may perform a purpose which no multiplication of minor and insufficient drains can effect. These may lessen the effects of wetness, but the other is designed to remove the cause of it; and the more perfect practice will usually be found in the end to the most economical as well as the most efficient.

The drains of the larger class described, it will be seen, are intended for the removal of

water which is contained in reservoirs and channels below the surface.

But frequently the water to be intercepted is very near the surface, as between the soil and subsoil, or the subsoil is so homogeneous to a great depth, that no pervious strata can be readily reached. In such cases, the drains may be of smaller dimensions, and increased in number, so as to afford many outlets to the water with which the soil and subsoil are charged.

A system of draining, having relation to this condition of the soil and subsoil, has been termed the Essex system, from its having been extensively practised in that flat and clayey district, and it is now very generally termed furrow-draining. The system consists in forming a series of small drains parallel to one another, in the open furrows between the ridges. In this species of draining, the design is not to reach the water as it percolates in pervious channels beneath the surface, but to afford numerous outlets to the water which the soil and subsoil retain. The system is for the most part greatly more expensive than the other: yet as it is efficient, is easily practised, and produces an immediate effect in drying the ground, it is often preferred even where the purpose might be otherwise effected. It may often, however, be combined with the system of deeper drains; the latter being employed to intercept the springs and larger body of water, and the former to give an increased degree of dryness to the surface.

The materials that may be employed in this species of draining are tiles or stones, the latter being broken to the size of small road metal. Of these materials, tiles are held to be the most convenient and economical, from their requiring a smaller trench, and from their being more easily carried, and more readily taken up and replaced when injured. They are formed into an arch of a semi-elliptical form, and they are made to rest on flat soles in the manner shown in the figure 65. The size of the arch varies with circumstances: the usual size is from three to four inches wide within, and from four to five inches high, and the length of each tile is about fourteen inches. The soles are flat, or slightly curved, and made to project about a quarter of an inch on each side of the tiles. These are the usual dimensions for the smaller parallel drains; but, where main drains are formed to receive the water from the smaller drains, the size of the tiles is increased to seven or eight inches wide within, with a corresponding height.

The principle adopted in laying out this class of drains, is to form one or more main or receiving drains across the ground to be drained, and to conduct into these the minor drains which follow the course of the ridges. The receiving drains are formed of greater size, by employing the larger form of tiles, or by placing two tiles side by side, and sometimes with their edges together, so as to combine the two arches into one tube; and sometimes three or four tiles are employed variously arranged. The minor drains lead to these receiving ones, and the water is permitted to enter by chipping off corners of the larger tiles, at the places where the tiles of the smaller drains terminate. It is better, however, that sets of tiles be prepared at the tile-works, in which caset he apertures can be made either through the sides of the tiles, or at the corners.

The depth or the drains should be sufficient to place the tiles completely beyond the reach of injury from the deepest ploughing. A medium depth of the smaller drains is from eighteen to twenty-four inches. They are formed by first taking up a spit with the common spade, and then employing the narrower spade, shown in figure 66, so as to

Fig. 66.

form the trench with a slope to the bottom, where the width should be just sufficient to receive the soles of the tiles; and in order to clear out any mud or loose earth in the trench, there is employed the species of shovel, fig. 66. Sometimes, in order to save some expense in digging, the earth at the surface is first removed by the plough, which passes along without the mould-board, and then returns by the same track, with the mould-board attached, so as to push the earth to a side and form a furrow. In proportion as the trenches are formed by one set of workmen, the tiles are laid by another. The workman in laying the tiles works backwards, the tiles having been previously laid along the line of the drains, and there is usually an assistant to hand them to the person in the trench.—This part of the operation must be performed

with care, so that the soles shall be placed firmly and evenly on their bed; and so that the acclivity shall be always sufficient to cause the water to run. The earth is shovelled back upon the tiles, and care should always be taken that the looser soil of the surface be laid next to the tiles, so that the space above them may be rendered as pervious as possible to water. When there is any sod upon the surface at the time of draining, this should be laid aside, and placed upon the tiles with the grassy side below, and then the looser soil next the surface is to be shovelled in, and lastly the more tenacious subsoil. And it is even an improvement in this kind of drains to lay over the tiles some gravel, sand, peat, or other pervious matter, before replacing the earth. This species of draining is of admirable use in drying the soil, by affording outlets to the water with which it may be charged, but care should be taken not to apply the principle to cases to which it is unsuited. It is plain that the method is not well adapted to the removal of springs and swamps produced by water beneath the surface. It may indeed keep the stratum of soil comparatively dry, even when the wetness is produced by the rising of water from beneath, but then it is a very inartificial method of producing the effect, since the water may be far more effectually removed by intercepting it by a drain along the line of the descent, in the manner before explained.

This kind of draining is mainly to be recommended for its efficiency, and for its speedy action in rendering the soil dry.—When the tiles are good and laid with care, these drains will last for a long period.—When choked at any particular part, they can be easily taken up at that part, and the tiles replaced, or new ones substituted.

Thorns, brushwood, and branches, are frequently employed in the filling of drains. They serve the purpose of affording a more pervious channel to water, but they soon decay, and the drains are very apt to be choked. Sometimes, indeed, the channels formed by the water remain, when there is a considerable current, long after these materials have decayed. But this cannot be depended upon, and such materials, therefore, ought not to be used if better can be obtained.

Sometimes a species of draining, termed Wedge-draining, has been employed. The general method of performing this is to form a narrow trench with a long narrow shovel. The spit being taken out as deep as the shovel can go, a scoop is employed to clear out the mud and loose earth at the bottom. Then another spade narrower than the first is used, and a second spit taken out, and lastly a corresponding shovel still to clear the whole out, forming a trench with a ledge as in fig. 67.

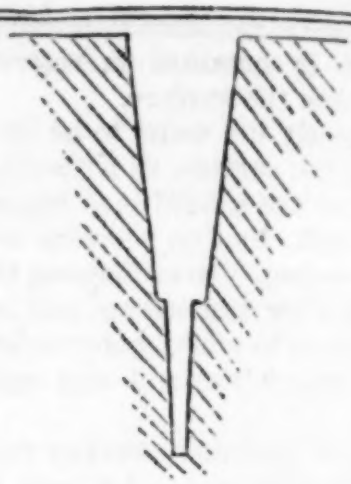


Fig. 67.

A piece of sod, with the grass side below, is then forced down, and resting upon the ledge, a space is left for the water below. Sometimes the ledge is dispensed with, and the sod is merely formed into a wedge, narrowed towards the grassy side, and this, when the little trench is cleared out, is pressed into it and covered with earth; and as it does not reach the narrow bottom, a channel remains below, through which the water percolates.

This simple species of drain has been extensively adopted in some districts; and as it is easily formed, and as the number of drains may be multiplied at little expense, considerable benefit has resulted from the use of it. But although drains of this kind will sometimes remain open for a considerable time, they are exceedingly apt to be closed up; on which account, the use of tile is in most cases to be preferred.

For the Farmers' Cabinet.

Working Dress for Farmers.

Good sense is shown in dress.

Every person should be clad in a dress adapted to his occupation or calling; this indicates sound judgment and good taste, and enables a family to save a good many stray dollars in the course of a year. In our country, but little attention has been paid to this important matter, and much unnecessary expense is annually incurred for want of adopting a cheap and simple costume for a working dress, which we should not be afraid of having dirtied or injured by the business we are engaged in, and which can be quickly put on or off, as occasion may require. In France, where convenience and economy has been studied by the agriculturist, there is a particular dress worn, which contributes much to comfort, and has a very neat and pleasing appearance. It much resembles what is called the "hunting shirt" in this country, is made for summer wear of unbleached linen, comes half way down to the knees, has a breast pocket on each side with buttons, and an open slit in the seam on each

side opposite the pantaloon pockets, to give ready access to them; the collar fastens with a hook and eye, and two buttons close the bosom slit. Around the waist is a belt either of the same material, or of leather buckled in front.

This dress, which in France is called "*Bleuse*," is cheap, light, cool, convenient, tidy, good looking and tasty, and consequently every way adapted to the every day business of the farmer and gardener, and ought to be worn by men and boys when engaged in their daily work, to the exclusion of the inappropriate, and inconvenient dresses, with which many are attired. A person who is desirous of introducing this useful and appropriate dress among our farmers, has had a few made from an European pattern, which may be seen at No. 14 North Sixth street, Philadelphia.

O.

For the Farmers' Cabinet.

Silk Growing, &c.

Letter from Chauncey Stone, of Burlington, N. J., to Dr. J. S. Naudain, of Middletown, Del., on the subject of silk growing, &c.

Sir:—When I had the honor of your visit in this place, last month, I proposed to write you when I should commence feeding silk-worms; accordingly, as I have made a small beginning, by hatching a few thousand eggs, I proceed to redeem that promise.

My mulberry trees are growing very well, and those I left in the field, either whole or the tops cut off and the roots remaining in the ground during the past winter, are growing rapidly, as they took an earlier start this spring. This shows that much can be gained in getting foliage early, by leaving the roots in the ground during the winter.

When in Burlington you said that you would be pleased to know our management of the silk worm. I will freely and cheerfully impart to you any information I am in possession of on this subject.

I first bring my eggs from the ice-house, where I deposited them during winter in a box imbedded in the ice, into a warm room not exposed to the rays of the sun, and in six or eight days they will begin to hatch; and what is very curious, their time of hatching is, with rare exceptions, between the hours of seven and ten in the morning. Their first appearance, though small, is active, and they are ready to eat, if leaves are laid before them; but it will be quite necessary to separate every days' hatching from the unhatched eggs, and put them on hurdles by themselves, so that those of different ages shall not be together. A very good way to separate them is by sheets of paper or newspapers, in which small holes are cut or punched, and lay over them and sprinkle fine leaves on the paper, when they will find their way up through to eat, they can be taken to the place designed for feeding and fed on the paper for a few days before being placed on the net work hurdles. The leaves must be cut fine before given to the worms while they are small as they cannot well get hold of the leaves to eat.

There are three things most important in the treatment of the silkworm, namely, *cleanliness, free circulation of air*, and a *seasonable supply of fresh leaves*. Many minute particulars are to be observed. The silk-worms ought to be fed, I think, five times in a day, though we do not always feed them more than three times. If leaves are gathered and laid in piles they will soon begin to heat, but they must not be fed to the silk worms until spread and aired. If leaves are gathered when wet it will be better to spread them to dry as much as they will, before feeding them to the worms. The worms may be fed in the evening even after sun set. I have fed them at 9 o'clock, in the evening, and found they would eat with avidity, and devour the quantity given them before morning. When we consider the silk-worm in its native condition on the tree, we will at once notice that it keeps hid during the day from the rays of the sun, and to protect itself in some measure from being a prey to birds, &c., and just at night will appear out on the branches to eat. The same can be noticed of the caterpillar.

Some silk worms moult only three times, but most species we use moult four or five times, they being the larger kind, and feed generally about five weeks before winding their balls. When the time of moulting comes, they appear sleepy and sluggish and don't eat, but raise their heads up. The old skin becomes troublesome as the worm increases in size, and first bursts open on top of the head and closes over the mouth, but before this the silk-worm will spin a few threads to attach themselves to some object to assist them to draw off the old skin, and of course it is not proper to disturb them, to move or feed them. Thus you will perceive the necessity of the worms that feed on one hurdle, being of the same age. The time of sleeping or moulting lasts about one day and night, sometimes longer; and when that is over they are active and will eat greedily. They should then be changed from their old beds, to clean hurdles, and well fed.

They are remarkably sensitive—dislike any sharp, shrill noise, near them, as they will instantly stop eating, and rear their heads. They dislike to be in an atmosphere impregnated with any impurity. Strong tobacco smoke is fatal to them.

I will give you a short description of our frames and hurdles. The Messrs. Cheney, Gummere, myself, and others, of this place, have adopted to use for our silk worms this season, though I do not pretend to give any certain or infallible rules or modes of management at this early stage of the business, as applicable to all future years; but you know we must have a starting point, and then be governed by the best light we can collect on the subject. We are erecting our frames by having uprights made of boards one inch thick, by six or eight inches wide, placed four feet apart, with kleets nailed on each side, beginning one and a half feet from the floor, and continuing one tier above another, about one foot apart, then rest our shelves, made of half inch boards, on the kleets, and on which the hurdles are placed. The frame part of the hurdles are four feet by three, square, made of boards two inches wide, by a little less than one inch thick, and covered across with a net work made of twine with meshes about one inch. The hurdles are placed on the shelves, and the worms, after being fed on the papers a few days, are placed on the net work hurdles. They will not fall through the interstices unless the leaves fall through with them. When the silk-worms want cleaning put another hurdle over them and sprinkle leaves over it. They will soon come up to eat, and then raise the top hurdle which contains the worms, and remove the under one and clean the shelf with a brush, and lay the hurdle having the silk-worms down upon the shelf. By this mode of changing there will be no occasion of handling the worms during their growth.

Our fixtures for spinning will be sawed lath, about one and a half inches apart, placed so the worms can readily spin between them. Several different ways are used in the construction of the lath. The mode of changing the silk worms to clean them, and the fixtures for spinning are original in this country. The Chinese being a very precise people and having the greatest practical knowledge in the silk business of any other people, without doubt, do the business exceedingly well in their way; but from their writings it would not be advisable for us to adopt their practice of feeding and manufacturing. They clean the silk worm by taking up the leaf, with the worm, clear away the filth, and then lay it down again. Other similar modes they practice in feeding. When the spinning time comes, the worms are carried away to spin in what they call the cocoon room. Their fixtures for spinning are generally of bamboo reeds and rice straw, placed so the worms can go in amongst them to form their cocoons. The carrying of the worms away to spin is not practicable, save where there are but few, for they will spin somewhere when they finish eating, and where there are a large number of them together they will waste their silk before they can be removed. By the Chinese accounts, I find each person or family feed but a few worms together, and, of course, much pains are taken to do the business precise.

The Chinese weaver will select a tree, or generally two trees, on which to hang his harnesses and apparatus for weaving, and warp his web to a number of little pins stuck in the ground forward of him, and that composes his loom. We learn from history our finest satins are made in this way. And after all this defective manner of doing business, the Emperor of China a few years since issued his edict, that there should be no change in his empire, in their system of doing business, as they had every thing as perfect as could be.

We are very sanguine of success in the silk business in Burlington, and are carrying it on with energy and spirit. We will be pleased to see you here, at any time and any friends you may have to accompany you.

I will here mention that my silk operations in this place are connected with the Hon. Garret D. Wall, and on his farm, about one mile from the city wharf. Although Mr. Wall's well gifted mind is principally employed in public business, he has a great solicitude to encourage all agricultural pursuits likely to be beneficial to our country. He has full confidence in the good success of the silk business, and expresses an earnest anxiety to pursue it with a prudent hand, until we can arrive at some degree of perfection. Respectfully yours,

Chauncey Stone.

Burlington, June 5, 1838.

New kind of Food for Silk-Worms.

Communicated by the Agricultural Society of Penn'a., 16th May, 1838.

Communicated by Mr. Bonafous in Nov. 1837, being an extract from his translation into Italian of a French translation by Julien from the Chinese, which work Mr. Bonafous presented to the Institute. His Italian translation was accompanied by notes, stating the results of his own experiments on the subject, which led to some singular results, worthy to be known. The following one in particular: They give to the silk-worms pounded rice-flour, by powdering the mulberry leaves with the rice-flour which the worms ate with avidity, as also the flour of other vegetables, particularly the sediment of potatoes.

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NEW KIND OF FOOD FOR SILK-WORMS.

Communicated to the French Institute by Mr. Bonafous, being an extract from a trans-

lation from the Chinese made by Mr. Julien. Experiments successfully repeated by Mr. Bonafous—the result was, that the Chinese give to the silk-worms flour of rice with which they powder the mulberry leaves and the worms eat it with avidity. Mr. Bonafous found that other flour from vegetables answered as well, particularly flour or sediment from potatoes.

For the Farmers Cabinet.

Butter made from four Cows.

Great credit is due to numbers of enterprising individuals who have at different times introduced from abroad improved breeds of cattle; particularly the improved Durham or short horn stock so valuable for taking on fat readily; but it has long been the opinion of many of the best farmers in this country, that the best specimens of our native cows are equal, if not superior, to the imported stock, for milk or butter.

Being recently on a visit to Cyrus Cadwallader, Esq., of Bucks county, he showed me a statement of the quantity of butter made from four native cows last season; commencing 4th mo. 25th, 1837, and ending with the season. They were pastured in the usual manner, and not otherwise fed, and there was made from the four cows 740 pounds of butter. I thought this statement, which can be implicitly relied upon, might be usefully published in the Cabinet, in order that comparisons might be made with others who keep dairies, who I hope will furnish for publication the results of their observations on the quantity of butter made by their cows. R.

6th mo. 6th, 1838.

For the Farmers' Cabinet.

Observations on a Wheat Crop.

From a communication of David Comfort, to the Philadelphia Agricultural Society, May 16, 1838.

In the autumn of 1836, I ploughed about six acres of clover and timothy sod, and sowed two bushels of bald white wheat to the acre about the first of tenth month, October; but in consequence of the coldness of the season, it did not come up for two weeks, and then looked very bad; the fall continuing cold, it grew but little. Winter set in, and when the spring opened, the wheat still looked bad, the ground was dry and hard, and the whole appeared very unpromising. About the first of April, I sowed two bushels of live wood ashes, and one and a half bushels of plaster mixed together per acre. In a short time after this application, the wheat commenced growing finely, and the timothy sprang up thick among the wheat, and both grew together. About the time the wheat shot in ear and while in blossom, owing to much damp and foggy weather the leaf was struck with the red-rust, and the straw with black mildew, in consequence of which the grain was shrivelled and light at the common time of harvesting; yet the straw was as well grained as my neighbors, and in as good condition for gathering as any in the neighborhood. The timothy was now coming out in ear, and the heads were generally from nine to eleven and some twelve and thirteen inches long; I therefore resolved to let my wheat stand for the timothy to ripen. I gathered in my other wheat, and my neighbors gathered theirs, mildewed and rusty with a light grain. In four or five days after I had gathered my other grain, I visited my wheat & timothy and found it doing well; In five or six days more I visited it again, and found it improving finely. In sixteen days after common harvesting was over, I cut my wheat and timothy together, in fine condition; the grain of the wheat had improved full twenty per cent., and the mildew and rust were gone and the straw had a fine yellow appearance; not one head had fallen to the ground. The miller who ground of this wheat for family use, informed me that it was the best he had seen that season, and the miller who bought of it, gave an advanced price, stating it was the best white wheat he had obtained that season. My desire is that if farmers should be annoyed with mildew and rust, that they try the experiment and publish the result. Although this wheat stood sixteen days longer than usual harvest, there was no shattering or loss of grain, it appeared just the time for gathering it.

Pennsylvania Horticultural Society.

The monthly meeting of the Pennsylvania Horticultural Society was held on Tuesday, the 15th of May; the President in the chair.

The committee on plants and flowers awarded the premium to Robert Kilvington, gardener to William Loyd, for the six best auriculas, exhibited at the society's intermediate meeting of the 2d of May; there were two competitors.

The committee on vegetables awarded the premium to William Chalmers, senior, gardener to Mrs. Stot, Turner's lane, for the three best bunches of asparagus; they also awarded him an honorary premium, for some suphricur sea kale; likewise an honorary premium to Henry Rasche, gardener to Mr. Borie, for some very fine beans, called "early six weeks," exhibited at the society's intermediate meeting of the 2d of May.

The committee on plants and flowers awarded the premium for the best display of plants in pots to Wm. Chalmers, senior, gardener to Mrs. Stot. Turner's lane, who exhibited cereus splendens, ixora coccinea, begonia insignis, b persiflora, b aggrastigma, torena scabra, hoya carnosa, verbena tweediana, ardisia crenulata, petunia nyctigeneflora, fuchsia gracilis, f microphylla, f tubiflora, gloxinia rutulla, mimulus wheelerii, m variegata, calceolaria compressa, c tricolor, c sanguinea, erica andrömdæflora, schizanthus pinnatus, senecia elegans alba, swainsonia galegafelia, camellia myrtifolia, cistus purpurea, dinanella cærulea, ballata purpurea, metrosideros lanceolata, pelargonium Queen of Scots, p ne plus ultra, p de vere, p capitatum, yellow noisette rose, monthly cabbage, and a fine double stock; he likewise exhibited vegetables, viz: winter spinnage, spring do, two bunches of very superior blanched rhubarb, asparagus, sea kale, early potatoes, cauliflower, onions, lettuce, and mushrooms.

The premium for the best ten china roses was awarded to Andrew Dryburgh, who exhibited rosa amie vibert, r yellow noisette, r thea madam Deprez, yellow tea, blush tea, r thea triumph de Luxembourg, r palavarina, r Admiral de Perrie, r thea Charles Deprez, and r faustine; there were two competitors. Mr. Dryburgh exhibited besides, rosa glorie de France, r gloire de jardin, r bizane de la China, r vaestana, r Madam d' Arbely, r la bische, r moss de meax, r white bath moss, r Louis Phillippe, r white tea, r searlet tea, r Ile de Bourbon, r Maria Leonida, r dela fileche, r d'angers perpetual, r grand perpetual, r grand perpetual, r Josephine Antoinette, gesnera bulbosa, polygala speciosr, euphorbia splendens, cereus speciosa, c jenkensonia, muraltia heisteria, swainsonia galegafolia, and a fine green edged auricula.

The premium for the 25 best tulips was awarded to Robert Buist, and for the six best to Alexander Parker; there were three competitors.

The premium for the best American seedling rose was awarded to M'Kenzie and Buchanan, a seedling from the tea, sweet scented, being in flower three months after the seed was planted.

The premium for the best boquet was awarded to Robert Kilvington.

The committee on vegetables awarded the premium to Daniel Reilly, gardener to Pierce Butler, Esq., for the best forced cauliflower; not less than three.

The premium for the best forced potatoes, not less than half a peek, was awarded to James M'Kee, gardener to Charles Chauncey, Esq.

The premium for the best blanched rhubarb, not less than two bunches, two pounds each, was awarded to Walter Wilson, Burlington, New Jersey.

The premium for the best lettuce, grown in New Jersey, in the open ground, not less than eight heads, was awarded to James M'Kee, gardener to C. Chauncey, Esq.

The premium for the best display of vegetables was awarded to James M'Kee, who exhibited three different kinds of potatoes, lettuce, blanched rhubarb, cauliflower, asparagus, &c. The committee likewise make honorable mention of William Chalmers for his fine display, especially his blanched rhubarb; also of James Beadle, gardener, Turners lane, especially for his leeks, being the best ever exhibited before the society; likewise of Robert Weston, gardener to Mrs. Roland, especially for the large quantity of very superior mushrooms.

Robert Buist exhibited rosa thea Margaretta, r thea hortensia, yellow tea, pink tea, fuchsia elegans, tropæolum tricolor var., t aduncum, rodoshcton volubile, verbena tweediana, v arraniana, lantana fucata, cereus splendens, gloxinia speciosa. g candida cytisus racemosa, amaryllis johnsonii, ixia, crocata lechanaultia formosa, diilwynea florabunda, guidia aurea, epidendrum parmenterii, oncidium flavescence, polygala cordata, pelargonium Admiral Napier, p tricolor, p superbissima, p purpurea cœrulea, p Adelina, p Buist's fair Maria, p b conquerer, p b purple perfection, p b beauty of Philadelphia, p diomede, p diversum, p Wheelerii, p Queen of Scots, p lucifer, p ne plus ultra, p celerestia, p Americanum, p man of ross, p Countess of Munster, p Balls General Washington, and 6 auriculas, rosa thea lilacina, r thea Madam Deprez, r t triumph de Luxembourg, r Bengal triumphant, yellow tea, r t fragrantissima, r t mixabilis, r t St. Claude, r t jaune panasche, and yellow noisette. The above roses competed for the premium.

M'Kenzie and Buchanan exhibited amaryllis johnsonii, erythrina crista galli, alstrœmeria tricolor, a pelargrina, lechanaultia formosa, indigofera coccinea, calceolaria integrifolia, tropæolum tricolor var., verbena tweediana, v chemœdrifola, dodecathean integrifolia, fuchsia myorophylla, mahemia odorata, lobelia crenis, ornithogolum niveum, pelargonium Lord Denman, p Adelina, p diversum, p wheelerii, p hericartianum, p lucifer, p belvidere, p nimrod, p navarino, p tory, p involueratum superbum, p Napoleon, p Admiral Nelson, p Admiral Napier.

The meeting was one of the most interesting the society has ever held, from the numerous well kept exoties exhibited, as well as the fine appearance of the vegetables, being superior to anything of the kind ever shown before; the cauliflower and blanched rhubarb were very superior indeed, and do the greatest credit to our gardeners for their great zeal and perseverance in bringing the culinary vegetables to such perfection. The general appearance of the men attracted a great deal of attention, from the neat manner that each had their plants and vegetables arranged. Great merit is due to the gentloman committee on the room, for the tasteful and appropriate arrangements they have made for the benefit of the numerous ladies and gentlemen that now attend the meetings. G. WATSON, Rec. Sec.

Philadelphia, May 23, 1838.

Proceedings of the Agricultural Society.

An adjourned Quarterly Meeting of the Agricultural Society of New Castle County was held at Cantwell's Bridge, 6mo. 2d, 1838. A large number of the members from all parts of the county were present.

On motion of Dr. Thomson, the following resolutions were adopted.

1. Resolved, That this Society is deeply impressed with the importance of Sheep as a valuable and essential part of agricultural stock, the raising of which has regularly declined in this county and state for some years past; and believing that a *Dog Law* for the protection of sheep is *absolutely necessary* to promote their increase and remunerate the farmer for his losses; the Society therefore recommend to the farmers of each hundred in the county to prepare and forward to the next session of the Legislature, a memorial in favor of the enactment of such law.

2. Resolved, That the collection and diffusion of practical information through Agricultural Journals is of immense importance in promoting the interests of the farmer; and as local publications are generally preferred, that we therefore recommend to the farmers of this county the two following works, as proper channels for their communications and worthy of their patronage, viz: The Delaware Register, published monthly at Dover, for five dollars per annum, and The Farmers' Cabinet, issued monthly at Philadelphia and Wilmington, for one dollar per annum.

On motion of Anthony Higgins, the Corresponding Secretary was authorised to subscribe for five of the principal Agricultural Journals in the United States, in the name and for the use of the Society; and at the end of each year to have the same bound and deposited in the library of the Society.

On motion of Dr. Thomson, it was Resolved, That this Society views with deep interest the extensive introduction of the mulberry tree for the cultivation of silk in this county, and earnestly recommends the business to the attention of all our farmers, as perfectly practicable and sure of success.

On motion of John C. Clark, a committee was appointed to visit the Agricultural exhibitions at Brighton and Albany, and any other similar exhibitions, to be held at the North the present year; also, the silk establishments of Connecticut and other states which they may think worthy of particular attention, and report an account of the same to the annual meeting in October next. P. Reybold, Dr. Thomson, M. Canby, John C. Clark, Dr. I. S. Naudain, and Samuel Canby were appointed, with authority to fill vacancies.

A Horticultural Exhibition was directed to be held in Wilmington some time during the present month, and the following committee appointed to have charge of it, M. Canby, S. Wollaston, Dr. H. Gibbons, S. Hillis, and James Webb.

A Premium List, for 1838 was adopted—which will in a few days be published. H. GIBBONS, Sec.

For the Farmers' Cabinet.

Chester and Delaware Co. Ag'ral Society.

At an adjourned meeting of the citizens of Chester and Delaware Counties, favorable to the formation of an Agricultural Society, held in the Hall of the Chester County Cabinet of Natural Science, Dr. Wm. Darlington was called to the chair, and Joseph T. Jackson appointed Sec'ry. The committee appointed at last meeting reported a Constitution which was read and adopted.

On motion, a committee was appointed to nominate officers for the Society and report at next meeting. Adjourned to meet on Saturday the 12th, May.

Saturday, 12th.

The meeting met pursuant to adjournment,

John James in the chair. The committee to nominate officers reported the following ticket which was elected:

President—John D. Steele.

Vice Presidents—William Painter, Richard Pimm, Hon. Henry Myers, Gen. Joshua Evans.

Corresponding Secretary—Wm. Jackson.

Recording Secretary—Geo. Thomas, M. D.

Assistant Recording Secretary—Caspar W. Sharpless, Esq.

Treasurer—George Brinton, Jr.

Directors—John James, Wm. W. Barber, Thomas S. Woodward, Paschall Morris, Jos. T. Jackson, Abraham W. Sharpless, Isaac Newton, Dr. John T. Haddleson, James S. Peters, Hill Brinton.

Dr. William Darlington, of Chester, and George Roberts, of Montgomery county, were unanimously elected Honorary Members of this Society.

Resolved, That the Society hold its next semi-annual meeting at the house of John Jacobs, in Delaware county.

Resolved, That the proceedings of this meeting be published in the papers of the two counties, and in the "Farmers' Cabinet."

JOHN JAMES, President.

Jos. T. Jackson, Sec'ry.

We have been politely furnished for publication in the Cabinet, with the following correspondence between the Corresponding Secretary of the New Castle County Agricultural Society, and Benj. Webb, of Wilmington.

For the Farmers' Cabinet.

Sugar Beet.

Wilmington, May 1st, 1838.

Benjamin Webb,—Dear Sir:—Intending to carry out the views and wishes of our agricultural Society by addressing *practical farmers* and obtaining such facts and observations as they may be willing to communicate on subjects connected with agriculture for the benefit of the Society, I hope you will be disposed (at your leisure) to give me the result *of your experience* (for I am aware you have been paying particular attention to the subject) in the cultivation and use of the *sugar beet*; and, if you please, of root crops in general. The queries proposed below will afford you some idea of the information sought.

1st. What variety and how long have you cultivated the sugar beet, and what has been its yield per acre with you?

2d. Have you attempted and succeeded in making sugar from it on your farm—if so, to what amount and by what process?

3d. How simple may the utensils be to effect its manufacture by the farmer, and how will its cost compare with the southern and West India Sugars at the common prices current?

4th. How valuable do you consider the cake or resideum after the extraction of the saccharine juices, as compared with the *root itself*, as food for horses, and all kinds of stock?

5th. Does your experience with the beet or other roots, lead you to believe that they can ever be substituted *entirely* for the grain the farmer is accustomed to feed to his horses, oxen, and fattening cattle and sheep?

6th. How does the sugar beet answer for dairy cows—compared with ruta baga, carrots, turneps, &c., and what is your mode of feeding it to them? and to your stock and in what proportion?

7th. How do you *preserve* your crop of sugar beets and other roots through the winter, and whether it is best to bury them in the earth or keep them in cellars?

Your friend,

Jas. W. Thomson,
Cor. Secretary Ag. Society.

Wilmington, 6th month 1st, 1838.

Dr. James W. Thomson,
Cor. Sec. Agricultural Society.

It is with some reluctance I agree to answer the above queries upon root culture, as that agreement is a sort of admission of my practical knowledge of agriculture; while those best acquainted with my business have good reason to doubt it, or at least consider me nothing more than a noviciate in the art of farming. I am so much engaged in other pursuits that I feel conscious of knowing but little of agriculture, and much of that little has been gathered from books and periodicals of the present and past times.

I am aware, however, that the members of the Agricultural Society of New Castle County, can appreciate as well the advantages as the difference between experiments, and theories, and shall therefore communicate such knowledge as I have, carefully marking the line between facts and opinions, and leave others to draw their own conclusions, as to the probable advantages of either.

Answer to the first querie.—We have cultivated the Silecian sugar beet these two years past; the yield has not exceeded 800 bushels per acre; the expense of raising the sugar beet, the mangel wurtzel, and the ruta baga, when compared with corn, has upon all the experiments I have made, exceeded the grain three to one; that is, one acre of roots has cost more than three acres of corn, but the produce has been ten fold, for we have raised more than 900 bushels of ruta baga to an acre, and have never raised 80 bushels of corn.

Answer to the 2d, 3d, and 4th queries.—We attempted to manufacture sugar from the

beet, but without success, having no other apparatus than what could be picked up about a farmers kitchen. The best samples came out but little better than tolerable molasses.

I have seen two samples of beet sugar made in our country, one by E. Chandler, and J. Duncan of Wilmington Delaware, and the other by Judge Chambers of Chester Town, Maryland, showing that sugar can be made in a domestic way. I am acquainted with no facts in relation to the expense, but am inclined to the opinion that the manufacture of sugar on a small scale will not be pursued in our country as a matter of profit.

Answer to the 5th querie.—My experiments will warrant no conclusion like making the sugar beet or any of the root family an *entire substitute* for grain in feeding stock. I look upon roots as important auxiliaries, not substitutes, in the economy of food. Col. Powel relates an experiment of feeding two heifers; one upon Indian meal, and the other upon roots, in which he is inclined to give the preference to the root feeding; but if he had put up a third heifer and fed her upon chopped oats and corn and ruta baga, or sugar beets, he would have discovered that the combined qualities of grain and roots will act with far greater effect in forming large secretions of either milk or beef, than they can possibly do when fed separately.

Answer to the 6th querie.—I consider the sugar beet preferable to the ruta baga for dairy cows, but that preference would not induce me to cultivate the beet to the exclusion of the turnep; those two roots are planted and of course cultivated at different seasons, which divides the labor both in planting and dressing, which is an object with the farmer in the summer season, when every moment of time is valuable; besides the Ruta baga is very hardy, it will bear late frosts, and rough treatment in harvesting; you may tilt them from a cart into a cellar from the second story of a barn without injury. We fill our turnep cellar in that way with great ease and expedition; but the mangel wurtzel, and sugar beet require delicate treatment, they must be carefully handled every time they are moved, or they will bruise, and then spoil through the winter. Our mode of feeding is to give a bushel of roots per day with grass, hay, or straw to one yoke of working oxen; and the winter allowance for a dairy of twenty cows, is from ten to fifteen bushels of roots, and from one to three bushels of chopped corn and oats per day, with as much hay and straw as they can eat, giving always the fresh cows greater quantity of feed than strippers.

I find that no rule of feeding by measured quantities of either roots or grain, will give the most profitable results in milk or beef; the proportion of roots, grain, hay and straw, should be meted out to each animal according to its condition. Some cattle require more succulent food than others, to keep up a healthy action of the system, a costive state indicating the necessity of more roots and less dry food, and visa versa. The man who tends the stock, by observing their evacuations, will soon ascertain the proportion of food to suit the habits of each animal.

We have not fed our horses upon roots sufficient to ascertain any definite results, but there can be no doubt of their beneficial effects upon their health of all animals, for the reasons already stated; but I would prefer carrots for horses, they are not quite so certain a crop as turnep and beet, but with a little care and good soil, a heavy crop may be raised; we tried half an acre last season and succeeded on one half the ground; but the other part was a failure owing to bad seed.

Answer to the 7th querie.—We stored our sugar beets in a cellar, but found they wilted, or became so dry as to loose some of their nourishing qualities; I intend to cover them next winter with grass sods in the cellar. I tried a lot of potatoes in that way last winter, and was well pleased with the result, they retained that fresh and plesant flavor so peculiar to them in the fall season.

Thy friend,

Benjamin Webb.

For the Farmers Cabinet.

Coal Ashes.

Mr. Editor:—Attention having lately been directed to Anthracite Coal Ashes as a fertilizing agent, it may be interesting to the scientific farmer to know the precise materials of which these consist, together with the proportions. These are given below as taken from the VII vol. of the Journal of the Academy of Natural Sciences of Philadelphia.

The average results of the Analyses of Tamaqua Anthracite made by Professors Rogers and A. D. Bache, gives,

Silica, (or sandy matter)	47 per ct.
Alumina, (or clayey matter)	36 "
Oxide of Iron,	14.5
Lime,	1.5
Magnesia,	1.0
	100.0

The specimens analysed were taken from the various seams of Anthracite mines on the Little Schuylkill, called the Tamaqua mines, the geological position of which is intermediate between the hard Lehigh at one extremity of the coal region, and the softer Pottsville coal towards the other. They exhibited a great diversity of character, and the proportions of earthy and incombustible remains, constituting the ash, varied from 9.3 per cent. in the

buff colored ashes with white specs, to 4.1 per cent in a salmon colored ash. The average of 17 specimens analysed was 7.3 per cent.

The white ash Anthracite contains a larger proportion of Silica, and a smaller amount of oxide of iron.

There can be no doubt that the ashes of Anthracite coal taken from the city and applied to lands in the vicinity as top-dressing and otherwise, have produced excellent effects upon grass and other vegetable products. Whether these good effects were wrought through chemical or mechanical agencies exerted by the Anthracite ashes themselves, or were due to any admixture of wood ashes, slops, &c., we will not undertake to determine. We only state the facts from actual observation. Some persons have asserted that in trials made with Anthracite coal ashes as a top-dressing for grass, not the least advantage was perceptible. Possibly in this last case, the ashes were, like those subjected to analyses, free from wood ashes or other foreign admixture. DAVY.

Philadelphia, June 6, 1838.

For the Farmers' Cabinet.

Paring and Burning Soils and Clays.

Burning improves the texture of clays, rendering them less cohesive and thus not only more permeable to water, but more easily penetrated by the roots of plants.

"All soils," says Davy, "that contain too much dead vegetable fibre, and which consequently lose from one-third to one half of their weight by incineration, and all such as contain their earthy constituents in an impalpable state of division, i. e. the stiff clays and marls, are improved by burning; but in coarse sands, or rich soils containing a just mixture of the earths; and in all cases in which the texture is already sufficiently loose, or the organizable matter sufficiently soluble, the practice of torrefaction cannot be useful."

"All poor silicious sands must be injured by it; and here practice is found to accord with theory. Mr. Young, in his Essay on Manures, states, "that he found burning injure sand;" and the operation is never performed by good agriculturists upon silicious sandy soils, after they have once been brought into cultivation."

"An intelligent farmer in Mount's Bay told me, that he had pared and burned a small field several years ago, which he had not been able to bring again into good condition. I examined the spot, the grass was very poor and scanty, and the soil an arid silicious sand."—(*Agricultural Chemistry, p.* 243.)

If you have lost your credit, be industrious and honest, and you will gain it.

For the Farmers' Cabinet.

Coal Ashes—Peach Trees.

Respected Friend:—In looking over No. 16 of the "Cabinet," which was handed me this morning, I see thy correspondent "S. J." condemns the use of *coal ashes*, and having had some experience with peach trees, and conducted about 40 experiments for their preservation from the worm, I am prepared to agree with him in regard to the unfavorable influence of unleached ashes on the young trees, and after leaching it is useless as a preventative against the fly.

From the 5th to the 15th of the 7th month, may sometimes be detected about the root of the peach tree, a very timid steel blue insect, resembling a wasp in form, and nearly in size; immediately at the surface of the ground, it has been actively engaged making several very slight punctures in the bark, and depositing its eggs in them, finishing its work by coating them over with a little greenish looking slime. The eggs themselves are of a dirty white hue, and so small as to be scarcely perceptible to the naked eye. In a few days the young worms appear; only a few of the strongest of these survive the first few days and commence at once the work of destruction, eating into the wood, and then downward below the surface several inches, throwing out their refuse, mixed with thick gum from the tree, always keeping clear their road in which they glide up and down at pleasure.

At the setting in of cold weather they retreat to the bottom of their dens, and lay dormant till the warmth of spring calls them to activity again. They now feed with voracity for some time, preparing themselves for their third stage, which is short. About the latter part of this, and the first few days in the next month, by carefully examining at the roots of the trees, which have been injured last year, the chrysalis may be found, snugly enveloped in its shell; in a few days it will burst forth; a few hours enjoyment on the sportive wing, and it then commences laying its eggs; and in a few days more, is dead. Such is its history—and knowing this, it teaches, that anything offensive at the spot necessary for the mother to deposite her eggs, will be a preventative. Among the many applications I have made, none have proved effectual except *slacked lime* applied to the surface of the ground and raised high enough around the body, to keep the rains from washing any earth against the tree, as this would afford a lodgment and protection for the eggs. About a peck of lime I have found sufficient for trees two or three years old.

Although I have kept the fly at bay and preserved many trees from its ravages, yet we have not now a peach tree on the farm

That fatal disease, the "yellows" cut them all off a few years since, and invariably takes them *now*, at one or two years old.

Respectfully, &c.,

MAHLON T. KIRKBRIDE.

Morrisville, Bucks County, 6th mo. 6th, 1838.

To prevent the ravages of the Cut-worm

Many things have been prescribed to prevent the grub or cut-worm from destroying Indian corn in its infancy; most, if not all of them, I believe to be ineffectual or inert, and some of them pernicious to the growth of corn. And as the season when the grub commits its ravages is near at hand, an effectual means to prevent its mischief I believe might be of vast importance to the agricultural part of our community.

Believing myself to be in possession of a knowledge of means that will completely prevent the cut-worm from destroying young corn, I shall endeavor to communicate the same to you, and shall consider myself fully compensated, without any reward from church or state, if they shall prove serviceable to the farming interest.

The remedy consists simply in feeding the grub. Many farmers are in the habit of badly ploughing their corn ground for this purpose; for bad ploughing leaves much grass for the grub to live on. But the practice of bad ploughing vastly increases the labor, and consequeutly the expense of raising Indian corn. The better practice is to plough well at first, and afterwards to apply the remedy.

The grub is not a dainty feeder, and will eat almost any green herbage. The best I have found to be the following: young elder sprouts and their leaves, milk weed, clover, mullein, and almost any green vegetable that happens to be at hand. My time and mode of applying them, is to apply them two or three days before the young corn makes its appearance through the ground, in compact handfuls in every fifth row, between every fifth and sixth hill, pressing the handfuls, when dropped to the ground, with a tread of the foot. The grubs, if numerous, will soon collect under these handfuls, in dozens, scores, and hundreds, and there remain for shelter and food as long as they find good accommodations, which will last for ten days or more. In the mean time it will be an easy matter to destroy them with a sharp instrument, going from handful to handful, along the rows in which they are deposited. I have in this way killed more than two hundred under a handful, and thus saved my corn.—Handfuls of fresh herbage must be re-applied if necessary.

The remedy may appear to many at first notice almost as bad as the evil; but I believe that a smart man will gather and apply the remedy to more than five acres in a day, and to destroy the grubs when collected is an easy matter. At all events, I believe, after a fair trial, that the remedy is the cheapest and most effectual that can be applied; and depend upon it, the remedy is no quack prescription, for it has its foundation in the animal appetite and disposition, that animal nature can be more readily coaxed than driven. —*Cultivator.*

Mangle Wurtzel and Ruta Baga

The period has now arrived at which I promised to give you my opinion of Mangle Wurtzel as a food for cows, and my plan of cultivating and securing them. I consider them to be very valuable. My cows fed upon them last winter, kept in fine health and flesh, gave a large quantity of very rich milk which made superior butter. They saved me much hay, and my cattle were remarkably fond of them throughout the winter. Farmers should by all means have them or Ruta Baga, and indeed both, for their cattle.

MANGLE WURTZEL.

In cultivating them, I select a piece of land in good tilth, draw furrows two feet and a half or three feet apart, which I fill with good manure. I then throw a furrow from each side upon the manure, rake the top smooth, make a drill, drop the seed about ten inches apart, and cover with the rake. This should be done the latter part of May. I till them with the hoe-harrow and hand-hoe, and if need be with the plough, and keep them free from weeds. The bottom leaves are good food for cows and hogs, and the root is benefited by their removal. The crop is a very heavy one, though I did not ascertain the amount per acre. The crop should be taken in before there is a severe frost. The leaves should be rung off, not cut, as that makes them bleed and rot. They should then be placed in a dry warm cellar, with the front carefully piled. Thus put away, they will be good for feeding until late in the spring. I have not fed sugar beets, but have been told by those who did so last winter, that cattle do not generally like them; beside they cause them to scour. In Mangle Wurtzel there is no mistake.

RUTA BAGA.

My plan of cultivating ruta baga, is the same as above. I plant them all in June.—They are not injured by slight frosts. I cut off the tops and secure them in heaps well covered with straw and then with earth about six inches thick, which I obtain by digging a ditch round the heap. They should not be put below the surface of the ground, as they are thereby rendered liable to be wet and frozen, particularly on clay subsoils.—*Germantown Telegraph.*

To make Farming Profitable.

Some farmers think, that to make money by the business, it is only necessary to cultivate large farms—of several hundred acres; others think that to raise and harvest crops at the least possible expense is the great secret; some again, think that covering their land with wheat crops, is to pocket the most cash; and others that to raise cattle, or to devote the farm entirely to a dairy, or to raising sheep goes ahead of every thing else.

They are not all correct. Which of them is? We will first say who is not. Cultivating a large farm is not profitable unless it is thoroughly done, for a man who makes nothing on one acre, will not be likely to make more on a thousand, with the same kind of culture. Those who own very large farms too frequently attempt to cultivate them with the least possible expense, or else neglect them entirely; and this superficial farming, is after all, by far, the most expensive, as we shall proceed to show. It is generally quite as expensive to cultivate an acre of land which is in a bad state, as one in fine condition, and often more so; if for instance, the crop is so small that it is only worth the expense of raising it, there is no profit whatever; but if the land be good, the expense the same, and the crop twice as great, one half of course, will be clear gain. Hence the vast importance of adopting such a course of farming as to tend constantly to the improvement of the land. This course is not close cropping with wheat, nor suffering it to remain constantly in meadow or pasture.

But to effect improvement in land, it is necessary to pursue a course of rotation in crops, to manure as much as is practicable, either by stable manure or by turning under green crops, with a proper use of lime, and to render all wet ground sufficiently dry by under draining. For this capital is necessary; and hence a farmer must not only have land to cultivate, but he must have means besides in sufficient quantity to carry on his operation to the best advantage.

It is true that many farmers have made money by close cropping with wheat; but there is no doubt that if instead of this, they had pursued a proper course of rotation, they might have done as well at the time, and instead of exhausting their land, been constantly rendering it more productive. A proof of this is afforded by an experiment made several years ago. One portion of land was cropped every second year; on another portion a longer time intervened between the crops of wheat; by a judicious system of rotation, and although wheat was the main crop, yet the increased fertility which this course caused, and the consequent increase both in the wheat and intervening crops, rendered the latter course ultimately the most profitable, with the additional advantage of leaving the ground in the best condition.

Corn, wheat, oats, barley, &c. being all similar in their effects in exhausting land, it becomes necessary to introduce the culture of some other crops more generally than exists at present, in order to form a proper rotation. Peas and beans are both excellent for preceding any of the grain crops just mentioned; and the red eyed China bean cultivated in drills or hills or would doubtless be as profitable as wheat or corn.

The culture of root crops is a most powerful means of enriching land. A crop of corn the last summer, was twice as productive after ruta baga as after corn, fertility and manuring being the same in both cases.—*Genesee Farmer.*

Laying down Arable Land into Grass.

It cannot be doubted, that if one-fourth part of the land, which at present is sown with grain, were properly laid down in grass, for the purpose of feeding stock, it would be of the greatest benefit both to the farmer and the public, as the other three-fourths, would be better manured, more easily cultivated, and would produce as much for consumption, as the whole now does. The failure of new crops of grass, is in a great measure owing to a deficiency of seed, or to the land being sown, when out of condition, and without an adequate supply of manure; and great tracts have, in these circumstances, been continued under a course of aration, to the impoverishment of the occupiers, and the loss of the public. Whereas, improved rotations, and in particular, a greater number of green crops, would enrich poor, or exhausted arable land.

The laying down a portion of the arable land of the country into grass, is a subject of great importance, which may essentially contribute to prevent any apprehension of scarcity. Indeed nothing would give so much relief to any difficulty with respect to grain, as to increase the number of cows. Milk used with rice, bread, biscuit, or with pot-barley boiled like rice, or meal or flour, would save a large proportion of the consumption of those articles. Nothing can be substituted so quickly, or so cheap. Each cow, so used, would save one load of wheat per annum.

It is a great error, in laying down land to grass, to sow an insufficient quantity of small seeds.

Another point to be strongly inculcated is that land intended to be converted from tillage to grass land, must either be dry by nature, or be made so by art, before it is possible to get a valuable crop of natural grasses;

all the best sorts abhor a wet bottom when they are young, and will not root deep enough in it, to bear the vicissitudes of the seasons; and not increasing by the roots as they ought to do, will die when they have perfected their seed, and leave the land bare.

The advantages to be derived from the alternate, or convertible husbandry, cannot be too much dwelt on. None but those who have tried it, can be fully aware, of the vast improvement effected, by laying down old ploughed land into grass, as well as converting pasture lands into arable.

Under this system, also, when judiciously conducted, the crops are always abundant, and the soil is kept in a constant state of increasing fertility. At the same time, it is proper to remark, that too much pasture in a populous country ought to be avoided. It diminishes the necessaries of life, while it increases and cheapens the luxuries, and its produce is much less efficient, in furnishing subsistence to man.

On the whole, it has been justly remarked, that the alternate system of husbandry, is most beneficial to the cultivators and the public. A considerable capital is necessarily required to commence and carry it on; and it must occasion some trouble in its execution; but these are circumstances, which indispensably accompany every improved system. If one half of a farm be kept under artificial grasses, and other green crops, as much live stock may often be supported, and fattened upon their produce, as if the whole farm were pastured; while the other half, enriched by the large quantity of dung produced by the consumption of these crops, will furnish as much disposable produce, for supplying the market with the various sorts of grain, as if the whole farm had been sown with culmiferous crops. Hence the superior advantages, and profit, derived from a conjunction of stock and of grain husbandry; by the union of which, wherever such a plan is practicable, husbandry can be more substantially improved, than by any other means that has hitherto been suggested.

Quantity of rain which has fallen in each month since January 1, 1838.

	inches.
1st month,	2.20
2d month,	2.19
3d month,	3.17
4th month,	3.58
5th month,	3.57

Philad. Hospital, June 2, 1838.

Many of our readers are anxious to hear again from A Penn Township Farmer.

If a man cheat thee once, shame him; if he cheat thee twice, shame on thee.

Fig. 54.

CONCAVE SELF SHARPENING PLOUGH.

This is considered as a superior article. It is of lighter draft, turns stubble, weeds or manure better, and without choking, than those in general use. The inventor says that they not only save the trouble of going to the smith shop, but also four-fifths of the expense of the other plough. We invite the attention of farmers to this plough. It is offered for sale by the inventor Mr. Wm. Beach, 438 Market street, who has on hand a variety of cultivators (see page 327) hoe-harrows, straw-cutters, &c., of the most approved kinds.

For the Farmers Cabinet.

Good Suggestions.

Mr. Editor—I was much pleased with the proposal of your correspondent, that our children should be furnished with tools suited to their strength, made in all respects like those used by men, their size and weight only excepted—not mere playthings. It is a happy thought, and I hope that, ere long, we shall be supplied with such from the stores, as a regular matter of business.

Allow me to remark, in passing, our farming implements are made too heavy and clumsy, that they might have a greater appearance of strength; this I have discovered to be an error. My neighbor Kendall's tools were made so large and heavy, particularly the handles of his rakes, shovels and forks, that it was difficult to grasp them; and I have known his men, designedly, to put them under the wheels of his wagons, to break them. At last, he got one constructed of light materials, and then the men looked out for that, to take care it did not get injured—This convinced *him* of *his* error.

Too little regard is paid to the children of Farmers; they are generally considered an inferior class, destined to turn the sod, of which they are supposed to form a part, and to be beneath the care and attention which is bestowed upon those intended for the counting house or workshop. But why should this be? All admit that the employment is the most independent, and favorable to reflection and observation, and the time is not far distant, when it will also be admitted that the scope which it offers for experiment and improvement, is not inferior to, what are called, the *professional labors.*

I have long thought that there is room for a lad's book on this subject, which, if it were

well got up, might become very popular, and be of great utility to the *most useful class* of the rising generation. It might consist of dialogues between a father and his son, on the subjects of Agriculture and Husbandry; and if the boy be intelligent and the father well instructed in his *profession*, which would be found to embrace much that is not usually considered as relating to farming in the abstract, I am convinced that the work might be read to profit, by other than mere children. One thing is pretty certain, in the hands of an acute lad of 12 years of age, accustomed "to follow in the fields his daily toil," the Father would not enjoy a sinecure. And, to follow up the idea, suppose I give you a sort of outline, in the shape of a preface to such a book, for your approval. The title might be, "The Young Farmer, or dialogue between a Father and Son, on the subjects of Agriculture and Husbandry."

Preface or Introduction.

The Grove Farm is situated on the great western road in the county of ———, and contains seventy-nine acres of land: the fields lie on the declivity of a hill, and the soil is so varied that the different inclosures present almost every gradation, from sand to clay, that might be found on estates of ten times its magnitude. The present occupier's father was the tenant fifty years ago, and by dint of good management, the son contrives to pay three times the rent, which was paid by his father at that period.

The family consists of a wife, almost unequalled in every desirable qualification; a daughter, 14 years of age, the pattern of her mother, and of the same name; a son, Francis, of the age of 12, and an infant. The father is a working farmer, and his boy has been his companion since the time he was able to follow him into the fields: this will account for some of the inquiries which he will be found to make, which, but for this circumstance, might be thought premature, and when it is known that the farm is in the vicinity of a town, from whence books and other means of instruction are easily obtained, and that our farmer had received a respectable education, and his wife is a superior woman for her sphere, it will not be wondered that their leisure is spent in instructive conversation, leading to examination into, and reflections upon, the phenomena with which persons of such occupations are peculiarly conversant, or that their children are superior in attainment to the generality of those of their rank in life.

As the soil of the farm is various, so also are the crops which are cultivated thereupon; and from the circumstance of the fields forming as it were a belt around the ascent of the hill, they are in general of small dimensions, being in many instances divided by small streams of water and *vallits*, and courses and ditches made for the purpose of carrying off the superabundant moisture, which in many places rises to the surface, in consequence of meeting with beds of clay in the substratum, giving the opportunity of practising Elkington's mode of draining, with complete success. From the number of trees growing around the house, it has taken its present name. At the time of the entrance of the present occupier's father, there was not a tree growing upon the farm: the owner, finding him an intelligent man, presented him with fifty dollars with which to purchase trees for planting at his discretion, and from this trifling circumstance it is that the estate has changed its name from 'Rainwell's' to that of

THE GROVE.

Citron Pumpkin.

Mr. Samuel Sower, of Schuylkill township, Chester county, presented us last month with a citron pumpkin, of his own raising. We cut it on the 25th of of May, and it was as sound and perfect as on the day it was taken from the vine, and we believe it would have kept in good order until fall. It was decidedly superior to any pumpkin, or any other member of the same tribe of vegetables. In gathering this pumpkin, Mr. Sower was careful to leave about three inches of the stem attached. It has been found that by cutting off near the insertion of the stem, the air is apt to penetrate the pumpkin, and decay soon ensues; whereas, if two or three inches of the stem be left, this evil is guarded against. Great care should be taken in separating from the vine; a sharp knife or fine saw ought to be used.

A New Form of a Horse Rake,

Planned by a Practical Farmer.

The *Flexible Horse Rake*, is distinguished from all others by a joint in the centre of the head, by which the rake yields and conforms to any uneven ground, and takes the hay clean; also by the form of the teeth, which glide over hillocks, &c., like sled runners; it also has a smooth back board on a level with the teeth, that supports it and is not liable to become entangled with the hay when it cants over forwards to be emptied. Twenty-four acres a day are raked perfectly clean with this instrument—one man holding it and a small boy riding the horse; the labor of managing it is less than that of holding a small plough. The price of this article is less than the sum it will save any farmer in *one single hour* when a shower is coming.

For sale at the Implement and Seed Warehouse, No. 63 Chesnut st. Those interested are invited to call and see it.

David Landreth & Co.

NOTICE.

We have the pleasure of informing our subscribers in the Peninsula, that we have made arrangements with Mr. Peter B. Porter, by which the Farmers' Cabinet will, from this date, be published simultaneously in this city and in Wilmington, Del. This change is made with the view of accommodating our numerous patrons in Delaware and the Eastern Shore of Maryland, and those portions of our own State with which the communication is more frequent and direct, with Wilmington, than this city. ☞ This arrangement does not interfere with our old friend Mr. Geo. Reynolds, who will receive and deliver the Cabinet to his subscribers as usual.

The Wilmington office is at the Book Store No. 97 Market st.

We publish the following notice of the establishment of Mr. ELLIS, with great pleasure; and we are satisfied that many of our patrons, will gladly avail themselves of the opportunity of testing the relative value of the manures now offered them on very liberal terms. Our intelligent and valued correspondent who dates from Wilmington, Dels., as well as the great mass of practical and intelligent farmers entertain the highest opinion of the good properties of these articles, especially in restoring exhausted soils, and ascribes his great yield of grass, (see Cab. Vol II. page 35 and 36,) mainly to the application of bone-dust, plaster, &c. We hope that this effort of Mr. Ellis will be abundantly rewarded, especially as those who may purchase and properly apply these fertilizing agents to their lands, will derive essential benefit from the same.

GROUND PLASTER for LAND

AT 25 CENTS PER BUSHEL.

Ground Bone, Ground Slugs, and Ground Oyster Shells.

The subscriber offers the above articles as a first rate, lasting and cheap Manure, and he would most respectfully invite each, and every farmer, who is desirous of improving his soil, to purchase a few bushels of the above articles; which will enable him to make his own experiments. The above Manure is for Sale at the PLASTER MILL. Kensington, between Front and Second and Franklin and Phœnix st.

By the Subscriber. ZABINA ELLIS.

BANK NOTE REPORTER.

About the first of July a copy of a newspaper containing a list of all the banks in the United States, with the standing of the notes of each in this city—with a full description of all counterfeit notes, will be sent gratuitously to each of our subscribers. The paper will also contain a list of the Broken banks, frauds, &c. with a full prices current, &c.

☞ *As this sheet will have an extensive circulation, it will afford a good opportunity to persons who have property to dispose of, to advertise the same.* Advertisements should be sent in by the first of July. Terms of advertising one dollar per square, 20 lines being equivalent to a square; columns same width as those of the Cabinet.

We are much pleased to learn that among the recent additions to our imported stock, is the justly celebrated Durham cow, Red Rose, imported by *Mr. Paschall Morris*—she is now on his farm near West Chester, Chester county, Pa. This is another evidence of the enterprise of our intelligent farmers. Success will, unquestionably, attend their efforts.

Labor Saving Machine.—A notice of Mr. Mercer's Machine for shelling or hulling clover seed, rye, barley, oats, corn, and grinding of corn &c. will appear in our next.

☞ The regular monthly meeting of the Horticultural Society, will be held at the usual place, on Tuesday evening, the 19th inst.

The meeting of the Agricultural Society will be held in the Philosophical Hall, in Fifth street below Chesnut, on Wednesday morning, the 20th inst., at 11 o'clock.

Our next number will be enriched with portraits of the celebrated cattle raised by Mr. Tonkin, of New Jersey, who has kindly promised to furnish us with a correct account of them. Mr. Tonkin, is, we understand, engaged in raising some animals of great beauty and promise.

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